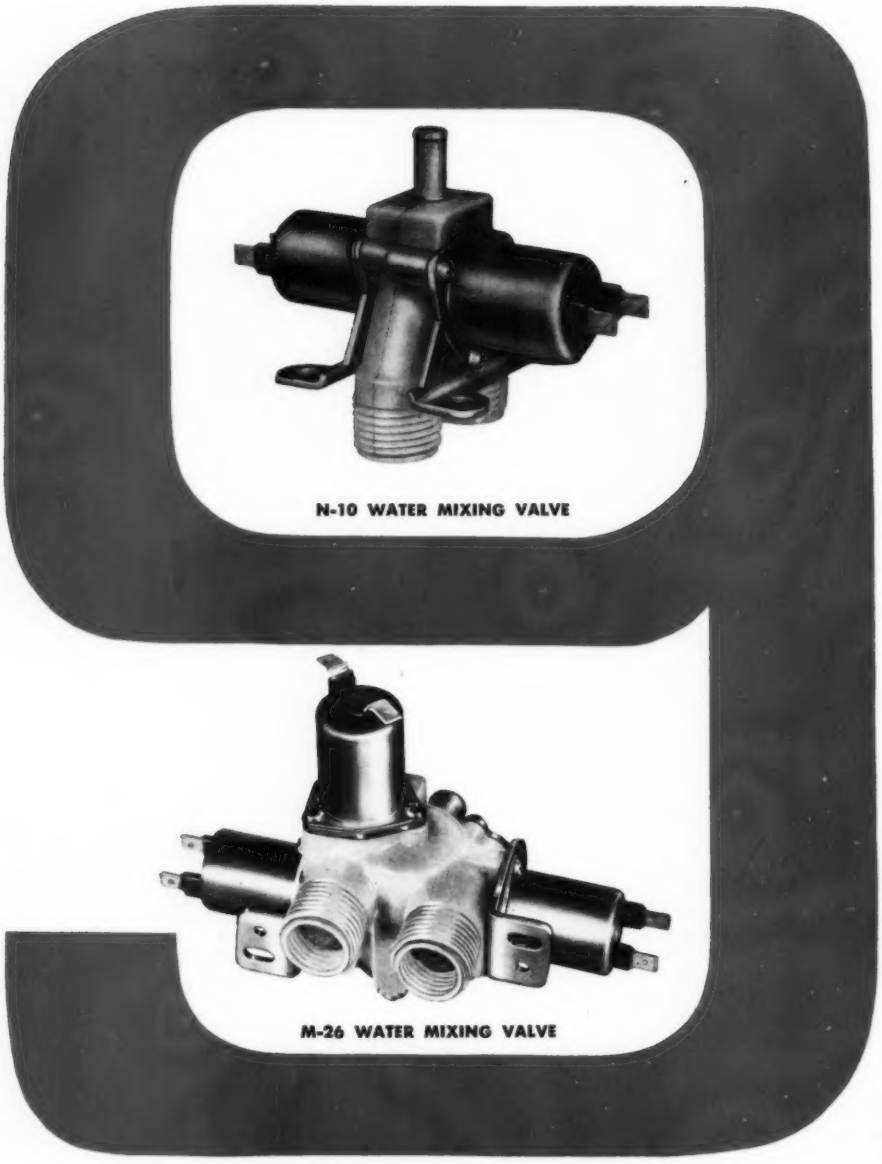
SEPTEMBER • 1959

MPM

Metal Products Manufacturing

Serving the Appliance and Fabricated Metal Products Industry



N-10 WATER MIXING VALVE

M-26 WATER MIXING VALVE

000,000

Proven More Than 9,000,000 Times!

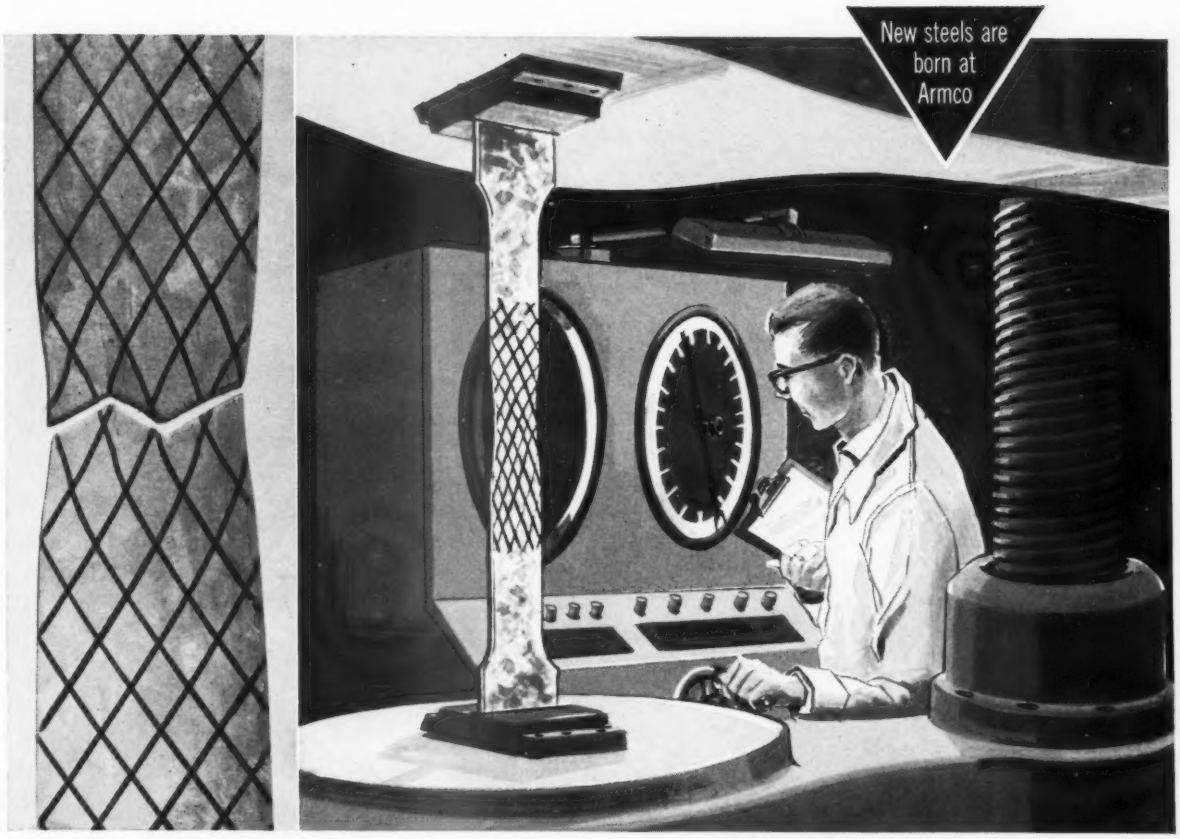
Soon this year, Detroit will produce its 9,000,000th valve for automatic home laundry units. Two of the most popular valves today are illustrated above. The M-26 thermostatically operated valve at the bottom lets you design a system incorporating five different temperatures. This is a water mixing valve which provides a greater range of temperature selection for new synthetic materials. The N-10 valve at the top is electrically controlled, non-thermostatic. In addition to the millions of valves produced by Detroit, many of the valves which are standard today have built into them the Vernatherm® element—an original engineering idea of Detroit Controls.

WRITE FOR INFORMATION

AMERICAN-Standard

DETROIT CONTROLS DIVISION

IN TENSION TESTS AS IN APPLIANCE FABRICATION...



Zinc coating on Armco ZINCGRIP stretches, but doesn't flake or peel

Great force is required to pull apart a tensile specimen of Armco ZINCGRIP® Steel. But even when the base metal breaks, the zinc coating holds tightly—right up to the edge of the fracture.

On the specimen pictured, grid lines show stretch and coating adherence. It's easy to see that the coating on this specimen did not flake or peel, despite elongation of about 70 per cent in the fracture zone.

PAYS OFF IN FABRICATION

Although tensile tests demonstrate the remarkable ductility of the rust-resisting coating on Armco ZINCGRIP, the real payoff comes in fabrication. For example, you can draw, form, pierce, bend, or stamp appliance parts from Armco ZINCGRIP Steel with the assurance of durable zinc protection *after* working.

For complete information on rust-resistant, workable Armco ZINCGRIP, fill in and mail the coupon.

ARMCO STEEL CORPORATION
2969 Curtis Street, Middletown, Ohio

Please send complete information about Armco ZINCGRIP Steel. We make_____

Name_____

Title_____

Firm_____

Street_____

City_____ Zone____ State_____

ARMCO STEEL

Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation • Southwest Steel Products

'WEIRKOTE'S® SOMETHING SPECIAL! IT CAN END THE NEED FOR ANY FURTHER CORROSION PROTECTION AFTER FABRICATION."

Q. You mean it? Weirkote can save you the cost of any further processing for corrosion protection after fabrication?

A. Absolutely. It's the continuous process that does it. Integrates the zinc to the steel so tightly there's never any peeling or flaking. No matter how severe the fabrication—any torture test you put it through—that bond stays put!

Q. Hmmm. Weirkote sounds great. One thing—is its zinc coating uniform throughout?

A. To the nth degree! Even the hardest-to-reach areas on the most complicated fabrications are completely protected.

Q. Corrosion-protected, you mean?

A. Corrosion-protected all over! So much so that you can work Weirkote to the very limits of the steel itself. So there you have it: stepped-up manufacturing efficiency, sharply curtailed manufacturing costs. All from Weirkote!

Send for free booklet that details the time-and-cost-saving advantages of skin-tight zinc-coated Weirkote. Just write Weirton Steel Company, Dept. R-1, Weirton, West Virginia.

WEIRTON STEEL COMPANY

WEIRTON STEEL COMPANY

WEIRTON, WEST VIRGINIA

a division of

NATIONAL STEEL CORPORATION

SEPTEMBER • 1959
VOL. 16 • NO. 9

MPM

(including finish)

MONTHLY TRADE PUBLICATION
Established January 1944
Published by
DANA CHASE PUBLICATIONS, INC.
York Street at Park Avenue, Elmhurst, Illinois
Telephones • TErrace 4-5280 • TErrace 4-5281

FEATURES

SHORT FEATURES

DEPARTMENTS

METAL PRODUCTS MANUFACTURING

FROM RAW METAL TO FINISHED PRODUCT

A trade publication devoted to the interests of the metal products manufacturing industry with special editorial attention to home appliances. The editorial scope covers design, engineering, market and statistical information and technical and practical information on plant facilities and all phases of manufacturing "from raw metal to finished product." Free controlled circulation to top management, purchasing, engineering and key plant management and supervision in metal product manufacturing plants. To others, subscription price is $8.00 per year, domestic. To all other countries $10.00 per year (U.S. funds). Single copies, $1.00.

Accepted under the act of June 5, 1934 at Aurora, Illinois authorized January 7, 1948.

when the time comes...

for new and better glass products — whether it be today or 2000 A.D. — Marsco's craftsmen engineering team will develop them.

The Junior Spaceman above has the best in interplanetary protection — a glass space helmet — because glass can be bowed to fit any desired shape and yet it can be tempered to impart extreme resistance to impact.

You or your family don't need space helmets today but chances are glass could improve the utility and beauty of your product and make it more salable today.

Let Marsco's craftsmen engineering team impart to your product all the advantages of glass.

ask for the man from

Marsco

Here are some of the applications for Marsco heat-treated, tempered and hardened glass parts:

- CLOCK & TIMER CRYSTALS
- OVEN DOORS
- RADAR EQUIPMENT
- AIRCRAFT ACCESSORIES
- PHOTOGRAPHIC EQUIPMENT
- LIGHT LENSES
- DIALS & NAME PLATES
- TELEVISION EQUIPMENT
- INSTRUMENTS
- MEDICAL EQUIPMENT

Special shapes for: Instruments, Gauges, Household and Industrial Appliances.

MARSCO MFG. CO., 2909 S. HALSTED ST., CHICAGO 8, ILL.

beauty is stainless steel

Look for the beauty of Stainless Steel on your new automobile. Its bright finish will make your car look better, stay in style longer and have a higher trade-in value.

No other metal offers the freedom of design and fabrication, economy of care and the durable beauty that serves and sells like Stainless Steel.

McLOUTH STEEL CORPORATION, Detroit 17, Michigan

specify

McLOUTH STAINLESS STEEL

HIGH QUALITY SHEET AND STRIP

for automobiles

Castings by ACME ALUMINUM FOUNDRY CO., Chicago

. . . here's your ANSWER!

MACCO
ALUMINUM CLEANER NO. 19

Even the finest organic or ceramic coatings are not satisfactory unless the base metal is CHEMICALLY CLEAN. MACCO No. 19 is a brilliant, new, streamlined 1957 chemical development, *ideal for use in either spray type washer or tank.* This highly efficient cleaner will thoroughly CLEAN and BRIGHTEN aluminum and die cast metal WITHOUT ATTACK. *Just One Operation—No Smut—No Acid Dip.*

simple . . . economical . . . sure

Manufacturers of Better Metal-Working Compounds since 1931

9210 SOUTH SANGAMON STREET • CHICAGO 20, ILLINOIS

MACCO PRODUCTS COMPANY

PRESSTIME NEWS

National Electrical Manufacturers To Open Annual Meeting November 9

member companies to vote on reorganization plan

The National Electrical Manufacturers Association will hold what NEMA Managing Director Joseph F. Miller terms the most important meeting in its history this year when representatives from hundreds of member companies assemble at Atlantic City, N. J., the week of November 8, to vote on plans to re-organize the 33-year old association.

Presentation of the reorganization plan will take place at an all-NEMA business meeting the afternoon of November 11. The meeting will be preceded by a first-time combined luncheon of NEMA sections. This event will find members of the association seated at their own section tables where they will discuss and decide reorganization questions as units rather than as individuals.

Other business features of the November 11 meeting will include the presentation of the 1960 budget, nomination and election of members to the board of governors, and a planned review of section and committee activity highlights for 1959.

The session will be historic as well as important, Miller states, since it could lead to the beginning of a new era in NEMA operations, and to the start of annual conventions far different from the section-by-section type of meeting used in the past.

The afternoon business on November 11 will be considerably lightened in the evening when the membership will relax at the association's traditional reception, dinner, and theatrical program. The after-dinner show is to include several of Broadway's brightest singing and dancing stars.

The convention will open on Monday, November 9, and close Thursday afternoon, November 12. Section and committee meetings will be held the first two days, with several subdivision parties planned for Tuesday night, November 10.

The annual association luncheon and presentation of 1960 officers will be held at noon on Thursday, November 12. Joseph L. Singleton, president of NEMA, and vice president, Industries Group, Allis-Chalmers Mfg. Co., will preside at the annual luncheon.

Electric Floor Washer Introduced By Hoover

An electric floor washer, designed to resemble a vacuum cleaner, has been introduced by Hoover Co. after three years of research. The cleaner spreads water and detergent over the floor, then vacuums up the dirty water.

New Rheem Plant

Rheem Mfg. Co. has shipped production machinery from New York and Los Angeles to equip its new affiliated company, Rheem Chilena, S. A., at Maipu, Chile. The new company, of which Rheem will be the managing partner, now is scheduled to start making steel shipping containers soon in a new $500,000 plant.

Waste King Sales Up

Waste King Corp., Los Angeles, achieved higher sales and total net earnings for the year ended March 31, 1959. The company's sales for the year totaled $20,962,894. This includes sales of its subsidiary, Cribben and Sexton Co., Chicago. Sales for the previous year, for Waste King alone, were $17,565,989. Bertram Given, president, indicated that combined sales will approximate $35,000,000 in the fiscal year ending March 31, 1960.

(Due to vacations, two executive statements received for the Home Laundry section (see Page HL-38) were delayed past press date — these will appear in October MPM.)

PHOTO BY KARSH OF OTTAWA

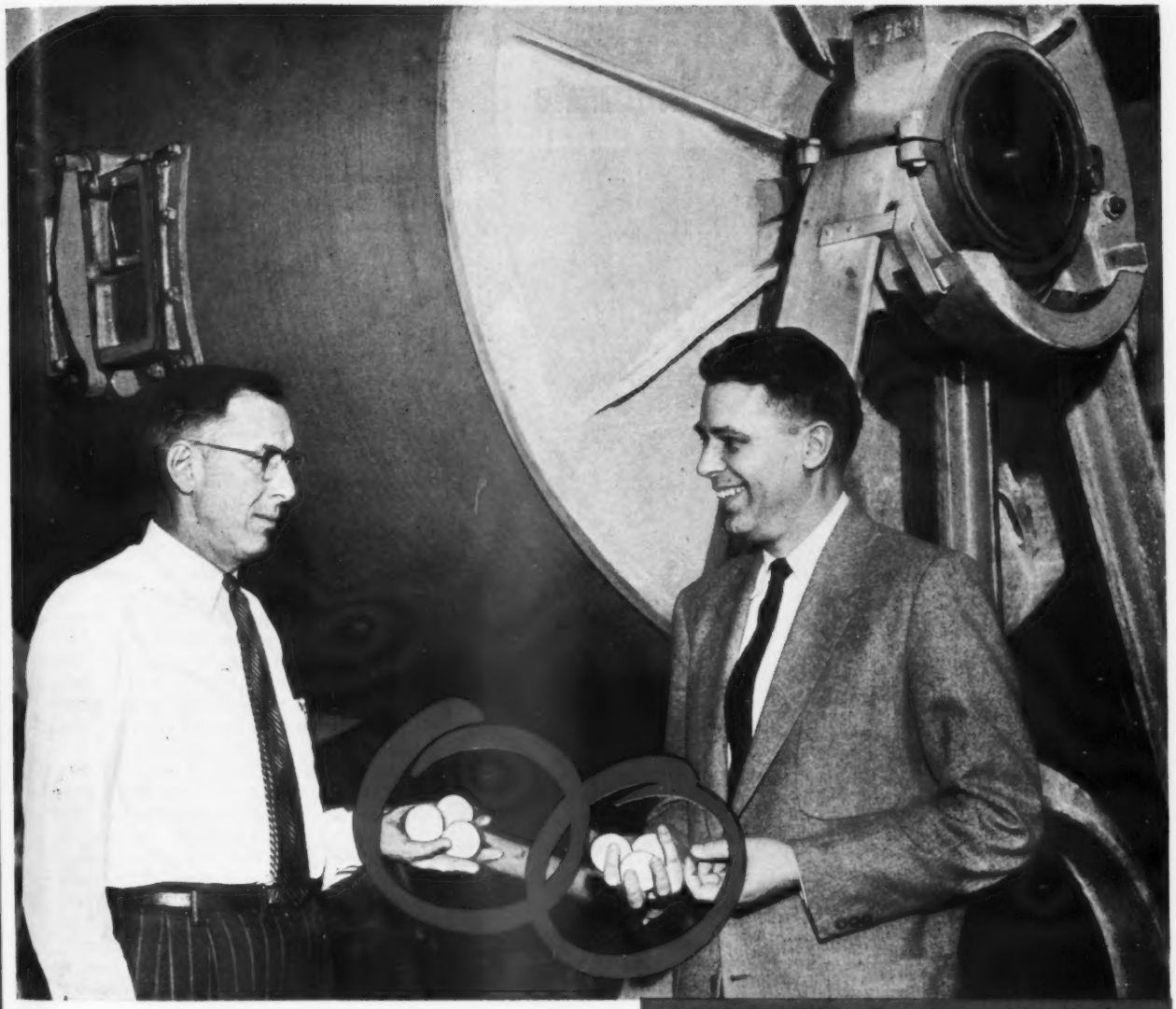
"We can depend on Sharon for steel of consistent quality"

—CHARLES MacINTOSH, Supt. of Assembly, Smith-Erie Div., A. O. Smith Corp.

"We've found Sharon Steel meets specs—then holds to them," says Charles MacIntosh, Superintendent of Assembly at A. O. Smith's Erie Division. "That's probably the most important single consideration to those of us responsible for fabrication," MacIntosh continues.

Shown here with Harold L. Ripley, Supt. of Machine Shop, MacIntosh examines a stainless steel stamping—a part for A. O. Smith's new line of ultra-modern gasoline pumps. He concludes, "For finish, too, it's hard to beat stainless from the *Sharon Steel Corporation, Sharon, Pa.*"

SHARONSTEEL **SHARON** *Quality* **STEEL**



Arthur L. Druffeff, left, millroom foreman, Briggs Manufacturing Co., Warren, Michigan, and John D. Thompson, Chief Ceramic Engineer, discuss the outstanding results obtained with Coors High Density Grinding Balls in 6'x 8' ball mill.

run, we have reduced grinding time from 35% to 45%, depending upon the type of enamel milled.

"With the Coors High Density Grinding Balls, wear replacement runs only about ¾ of a pound for each 1000 pounds of frit milled. The wear rate of the Coors balls is less than one-tenth that of the conventional porcelain balls formerly used." —John D. Thompson, Chief Ceramic Engineer, Briggs Manufacturing Co.

from the Editor's Mail

Request for reprints

Gentlemen: Would you please forward, marked to the attention of the undersigned, the following reprints or clippings from METAL PRODUCTS MANUFACTURING: MPM, January, 1956 — Special Rheem section covering U. S. plants; MPM, December, 1957 — Case history of a new type porcelain enameling furnace.

W. H. Bowden, Vice President
AllianceWare, Inc.
Alliance, Ohio

Strong case for appliance service

Gentlemen: I read with a great deal of interest Mrs. Blackman's article on "The problem of home appliance service" in the August issue of METAL PRODUCTS MANUFACTURING. Apparently, Texans require *more* appliance service, *more* often, and at *more* cost than anyone else.

She has built a strong case for the need for better appliance service and, indirectly, for the need for better quality and production control at the manufacturing level, in my opinion.

As I recall, you mentioned one day that there were two or three other articles in this series, to be done by the newspaper women's page winners of "Alma" trophies last year. Recognizing your editorial prerogative, don't you think it might strengthen your case and the article to identify each editor-author as a National Winner in the "Alma" Awards competition in 1958? Just a passing thought I'm throwing out for what it's worth.

Robert W. Balcom,
Director of Public Relations
American Home Laundry Manufacturers Assn.
Chicago, Ill.

Mrs. Blackman was one of five newspaper women who received an award in 1958 for outstanding journalism in home laundry education.

The Editors

Thermostats for appliances

Gentlemen: We read with much interest the article "The role of thermostats in appliance design," published on page 24 of METAL PRODUCTS MANUFACTURING, June, 1959.

Among the various appliances here described, the adjustable thermostats for appliances such as fry pans, sauce pans, and deep fat fryers are particularly interesting to us.

Since in the article the firms Metals & Controls Corp. and Stevens Mfg. Co., Inc. are named without their address, we beg you kindly to inform us of the

to Page 14 →

At Arvin Industries, Inc.,
a line bender shapes
Youngstown Cold-Rolled Sheets
into tube stock for
ironing board legs and
automotive exhaust tail pipes.

Accent on Excellence

Youngstown cold-rolled sheets

It's *no lift . . . no drag* for this lucky young homemaker. That's because she proudly owns a Lady Arvin Met-L-Top Roll-away Ironing Table. It easily moves back and forth while in use—rolls in and out of tight storage areas. And, best of all, she gets lifetime durability because the table is fabricated from steel to provide a firmer, stronger, longer lasting unit.

To keep scrap loss to a minimum, Arvin uses Youngstown Cold-Rolled Sheets to fabricate *both tops and tubular legs* for their ironing tables because they find this quality-controlled steel runs true to gauge and width—keeps production at high levels.

Wherever steel becomes a part of things *you* make, the high standards of Youngstown *quality*, the personal touch in Youngstown *service* will help you create products with an "accent on excellence". The Youngstown Sheet and Tube Company, Youngstown, Ohio. Carbon, Alloy and Yoloy Steel.

QUALITY YOUNGSTOWN SERVICE

Youngstown

Editor's mail

→ *from Page 12*

same, and eventually other firms, that we are interested in these thermostats and in receiving catalogues and description concerning their use, and this in order to enable us to examine their utilization for our uses.

Mattia Leszl, Managing Director
S.p.A Smalteria e Metallurgica Veneta
Bassano del Grappa, Italy

The names of all the manufacturers who cooperated in the development of this staff article are on their way to S.M.V.

The Editors

Interested in Cermets

Gentlemen: We would appreciate receiving your bulletin entitled "Cermets — possible answer to ultra-high temperatures," appearing in Finish (now METAL PRODUCTS MANUFACTURING), Vol. 10, December, 1953, Page 37.

J. A. Thompson, Engineer Aid
Materials Research Laboratory
Aerojet-General Corp.
Sacramento, Calif.

High temperature applications

Gentlemen: We would appreciate receiving your bulletin entitled "Silicone finishes for high temperature applications," appearing in Finish (now METAL PRODUCTS MANUFACTURING), Vol. 10, October, 1953, Pages 45-46.

Denny A. Jones, Laboratory Technician
Materials Research & Development
Aerojet-General Corp.
Sacramento, Calif.

Incomplete address

Gentlemen: In the April issue of METAL PRODUCTS MANUFACTURING there appeared an article on Page 90 regarding a publication which could be obtained by writing ARI, Washington, D. C. I wrote for the article and the letter was returned because of insufficient address.

I would appreciate receiving the full address of this organization.

Miss B. J. Burke, Secretary
to R. Whitehall
The Clark Controller Co.
Cleveland, Ohio

The address is 1346 Connecticut Ave., N.W., Washington 6, D. C.

The Editors

A change of address

Gentlemen: In my previous employment as plant manager of Eclipse Air Brush Co., 390 Park Ave., Newark, N. J., I received METAL PRODUCTS MANUFACTURING magazine free of charge.

I now occupy a similar position with my new firm. Enclosed is an address label from a recent magazine.

Your magazine has always been helpful and responsible for various purchases, and I would appreciate it if you will mail my copies to the new address.

Eric H. Cocks
Spraymation, Inc., Little Falls, N. J.

WRAP AROUND CABINET ENCLOSED ON EACH SIDE BY ALUMINUM EXTRUSIONS

PERFORATED STAMPED GRILLES

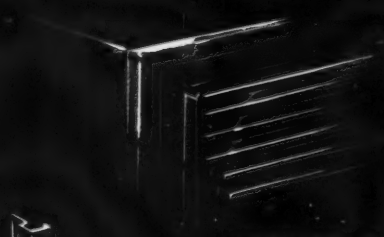
Aluminum

offers new design versatility in

AIR CONDITIONERS

through New Forms, Finishes and Fabricating Techniques →

WRAP AROUND CABINET OF COLORWELD COIL. EXTERIOR GRILLE OF EXPANDED ALUMINUM.



HINGED GRILLE OF ALUMINUM SLATS

EXPANDED METAL GRILLE

How Aluminum offers air conditioner manufacturers FLEXIBILITY and ECONOMY IN STYLING, FABRICATING AND FINISHING

The sketches on the front side by Reynolds Styling and Design Department suggest a few of the many new ways that strong, lightweight, rustfree aluminum can contribute to air conditioner design. Because aluminum is the most versatile of all metals, it permits a wide range of styling freedom and fabricating and finishing techniques. Here are a few examples:

In fabrication, aluminum can be drawn, extruded, cast, stamped, roll formed, expanded, perforated or pierced. (The "idea" sketches show examples of expanded, extruded, stamped and perforated applications in air conditioner cabinets and grilles.) A wide choice of *attachment* methods is also available: welding, mechanical fasteners, tabs and cast pegs, bolts and rivets, metal stitching and epoxy resin adhesives are among the most common. In finishing, a wide variety of sales appealing *colors* can be easily obtained through painting or color anodizing. A variety of surface *textures* is also available.

This versatility also points the way to *manufacturing economies.* For instance, modern techniques in design, tooling and assembly permit higher rates of production with aluminum at low cost. Aluminum extrusions, with their nominal die costs, are a good example. Aluminum's light weight cuts costs of certain reinforcing or supporting parts. Lightweight aluminum also lowers handling and shipping costs. And lightweight, easier-to-handle aluminum air conditioner cabinets add important *consumer sales advantages*—especially in portable units.

Economies in finishing are also worth investigation. One-Side-Bright Aluminum can be used to eliminate costly buffing operations. Pre-painted aluminum sheet (Reynolds Colorweld Aluminum Coil) is ideal for applications calling for a painted stock. (Note air conditioner cabinet application in "idea" sketches.) Colorweld Aluminum Coil will take most forming and fabricating operations without damage to paint surface.

Embossed or brush finished aluminum sheet, in standard or special designs, requires no additional finishing operations—permits low cost styling "change-overs". Laminates of aluminum with vinyl plastics or wood cut costs and weight in sandwich panel and other decorative or functional part construction.

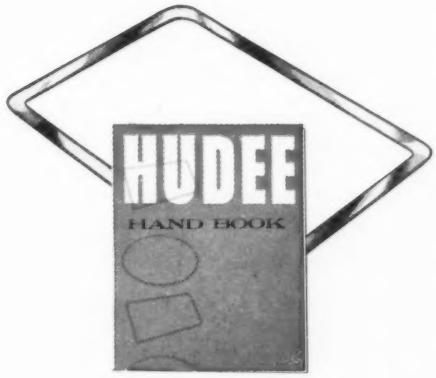
Permanence of aluminum is important to you and your customers. Aluminum cannot rust, ever. This means that neither in-the-wall condensation nor year after year exterior exposure to the elements can cause aluminum cabinets to deteriorate. Unsightly rust stains on walls are eliminated.

New ideas for using aluminum in air conditioners and other appliances are being developed constantly. Reynolds Styling and Design and Product Development groups are ready to assist your own stylists and engineers in putting the newest and best aluminum forms, finishes and fabricating techniques to work in your products. Reynolds fabricating facilities are also at your service to assist in actual fabrication of finished aluminum parts. For highest quality aluminum mill products or for details on these services, contact your nearest Reynolds branch office or write *Reynolds Metals Company, Box 2346-AV, Richmond 18, Virginia.*

NOTE: Before you make or buy any appliance part, have it designed and priced in aluminum. Remember—basic material costs do not determine part costs. New techniques and processes—applicable only to aluminum—can often give you a better product at a lower *final* cost.

REYNOLDS ALUMINUM

because Hudee frames fine lavatories such as the Modified Dresslyn



When a fixture-making specialist needs a framing specialist he naturally turns to Hudee. Hudee's experience and know-how promise the best-fitting, best-wearing, best-looking frame available.

In addition to custom frames for gas and electric ranges, drinking fountains and similar installations, Hudee makes aluminum or stainless steel frames for each of the 1,062 industry sinks and lavatories. Hudee's patented inter-locking lug doubles as a fixture hanger so *every* installation is a quick, easy one-man operation. Hudee frames always hug tight, seal out water.

Designing and engineering is a Hudee specialty, too. Call on Hudee's qualified staff who will work with you on any fixture-framing problem.

free handbook helps you sell!

Write today for your free Hudee Handbook—the only one of its kind! It gives 50 reference tables showing which frame to order for each of the 1,062 industry sinks and lavatories and a ready-reference price list.

SELCK

WALTER E. SELCK and CO.
225 West Hubbard Street, Chicago 10, Ill

Hudee frames are covered by patents 2,440,741 and 2,704,370

Get the facts about METAL PARTS FINISHING COSTS

Here is a means of accurately analyzing the economy of *your* metals finishing procedures. It is designed to pin-point all price factors from raw materials through production—plus unrecognized or hidden costs involved in:

1. On premises finishing of parts
2. Off premises finishing of parts
3. Use of **Apollo** pre-finished metals

No obligation—just call your nearest APOLLO representative or contact APOLLO direct. Use the convenient coupon, if you prefer.

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Nationwide Representation

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I would like to analyze my metal finishing costs.

Name_____

Title_____

Company_____

Address_____

City_____ Zone____ State_____

Good attendance at 31st NHMA Exhibit

AN MPM STAFF REPORT

W. H. Sahloff, General Electric Co., president of NHMA.

Melanie Kahane, kitchen and houseware designer, was a guest speaker.

CONVENTION HALL, Atlantic City, was the scene of the 31st National Housewares Exhibit from July 13 to July 17. A summer show record of 716 exhibitors (compared to 660 a year ago) showed literally thousands of products. Included were such items as a new coffee maker, a detachable control fry pan, a griddle, and a sauce pan — by Hamilton Beach Co. Div., Scovill Mfg. Co.; a portable carousel of kitchen tools that puts the proper tool just a spin away at table, stove or sink — by Ekco Products Co.; a combination bottle warmer and vaporizer — by Hankscraft Co.; and an infrared heating unit which provides table broiling, toasting, warming, grilling with removable grip for broiling tray — by Gala Appliance Mfg. Inc.

A general view of the Landers, Frary & Clark booth.

EXCLUSIVE MPM PHOTOS

E. W. Busby, president, Big Boy Mfg. Co., and president of the Charcoal Grill Mfrs. Assn.

Prices either firm or on upgrade

It apears that most manufacturers of housewares have either raised prices recently or anticipate that they will be raising prices in the near future. One factor entering into the picture is that most manufacturers anticipate an increase in steel and aluminum prices.

Exhibit well attended

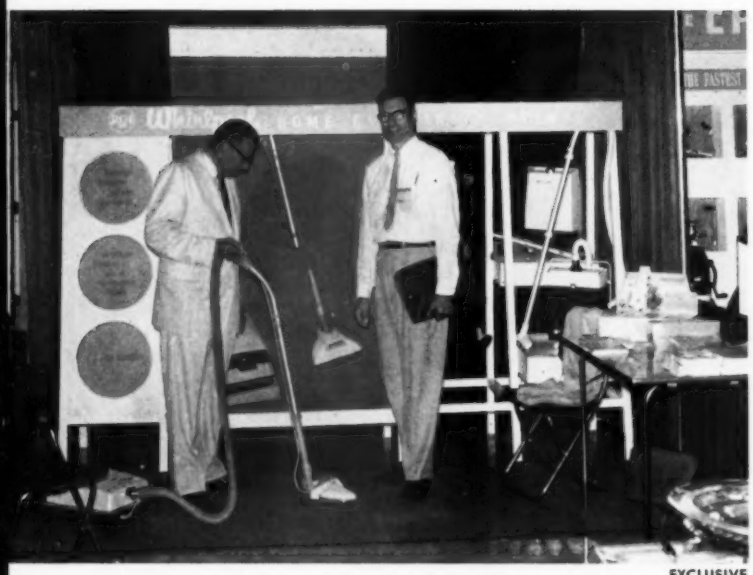
Most exhibitors interviewed by the MPM reporter indicated that they were extremely pleased with the attendance and the traffic. Comments ranged from "about usual" to "good traffic, but of course we don't write orders here" to "excellent" and "great show."

NHMA business survey

An interesting side light of the exhibit was the release of NHMA's seventh busines survey. This survey revealed that manufacturers of housewares average 233 employees per company and produce an average of 18 products or

General view of the Westinghouse booth.

EXCLUSIVE MPM PHOTO



Gene Neff, Whirlpool Corp., and Allan E. Peyer, Hoover Co.

EXCLUSIVE MPM PHOTOS

Bob Malcomson, Dormeyer Corp.

lines. Sixty per cent of the manufacturers said they manufacture products other than housewares. The manufacturers reported a total 1958 gross volume averaging $2,634,989 per firm, and the majority said they expect their 1959 volume to exceed that reported for 1958.

The 1960 Chicago show will run from Monday, January 11 through Friday, January 15 at Navy Pier.

Speakers at the press meeting are, from left: S. C. Rexinger, sales manager, Toastmaster Div., McGraw-Edison Co.; Melanie Kahane, designer; W. H. Sahloff, General Electric Co. (at podium); Leonard R. Jacobs, merchandising manager, Maison Blanche; and Harold Myers, merchandising manager, Kirby Block & Co., Inc.

Hans Fiedler, vice president, Textile Machinery Works, and Leonard Bilger, Jr., Prizer-Painter Stove Works.

EXCLUSIVE MPM PHOTOS

C. W. McClarran, general sales manager, Buckeye Div., Mardigian Corp.

Typical SECHRIST Products
"Leader in lighting Since 1888"

Cook's

helps put the selling glow on SECHRIST lighting fixtures

The Sechrist Manufacturing Company, Denver, has been making quality lighting fixtures since the gas-lamp era. Today they specialize in lighting equipment for schools, offices, institutions and industry throughout the nation.

The quality materials, modern design and technical excellence of Sechrist products get a finishing touch of beauty and protection from Cook's Paints. It's the kind of beauty and durability that sells to architects, engineers and interior designers.

What goes for Sechrist goes for hundreds of manufacturers of thousands of other products, from automobiles to bobby pins. Cook's meets their widely varying needs with industrial finishes of unvarying high quality.

How about your product? Find out how Cook's finishes may give a lift to its beauty and sales—and give you important production savings as well.

COOK'S PAINTS

Cook Paint & Varnish Company
North Kansas City, Missouri
Factories: Kansas City • Detroit • Houston

A continuous cleaning-painting process utilizing a single machine

A RECENT CONCEPT in finishing metal equipment has been developed by E. I. DuPont de Nemours & Co.'s Electrochemicals Department. Direct integration of cleaning and painting within a single machine, which is divided into two zones, is the key to the idea. The zones are directly connected, and covered with a continuous blanket of trichlorethylene vapor.

The first section serves to clean the incoming oily or greasy parts by use of standard degreasing techniques. The parts leave this section at the proper temperature for spray painting, substantially that of boiling trichlorethylene.

The cleaning section design depends largely upon the nature of the part and the amount of soil on the part. In the simplest operation, the part enters the machine and passes into a vapor zone where pure trichlorethylene vapor condenses on the part, flushing off the soil. This requires only a single boiling sump with sufficient boilup to maintain the proper heat balance in the machine. Cleaning by vapor exposure alone is adequate for lightly soiled parts which have a high ratio of weight to surface.

In many cases, it is necessary to remove insoluble soils also. A warm, pressurized trichlorethylene spray will flush off such soils. This is accomplished through a spray sump, which follows the boiling sump. A spray system is also useful where thin sheet stock is to be cleaned and the part is so light that condensation of the vapor will not produce enough liquid to flush off all traces of grease.

The choice of cleaning cycle to be used depends upon the nature, ratio of weight to surface area, and shape of the part. Regardless of the cycle chosen, good degreasing practice requires passing a purge stream from the boiling sump to a conventional solvent purification still.

Paint is applied by spraying or flow-coating

After the part has been cleaned and preheated, it passes to the painting section of the machine, where boiling paint is applied by spraying or flow-coating. Temperature of the paint sump varies from 190° to 210° F., depending upon the nature and concentration of the paint. The paint is maintained at a very slow boil, which prevents either excessive solvent loss through evaporation, or thinning of the paint by condensing of solvent into cool paint.

The paint to be sprayed is passed through a high-pressure pump and preheater so that, at the spray nozzle, it is slightly above the normal atmospheric boiling temperature. This allows application at a higher temperature and concentration as the part passes through on the overhead monorail conveyor.

Since the air-free, trichlorethylene vapor zone is maintained throughout the machine at all times, the surface of the paint pool remains free of dried paint, and oversprayed paint is recovered for reuse by draining from the walls of the chamber to the sump.

Leveling and drying

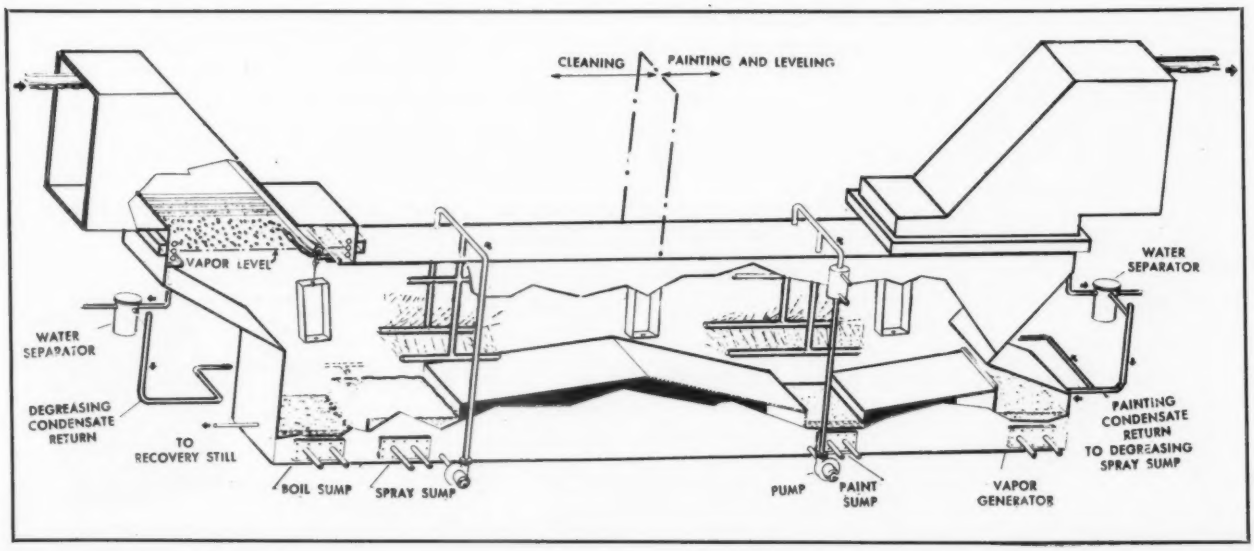
In instances where it is desirable to evaporate most of the thinner while the part is beneath the vapor zone, a supplemental heat source, such as infra-red lamps or electrical induction heating units, is installed. When using an air drying machine, the part leaves the machine clean, painted, dry to the touch.

Paints that are suitable

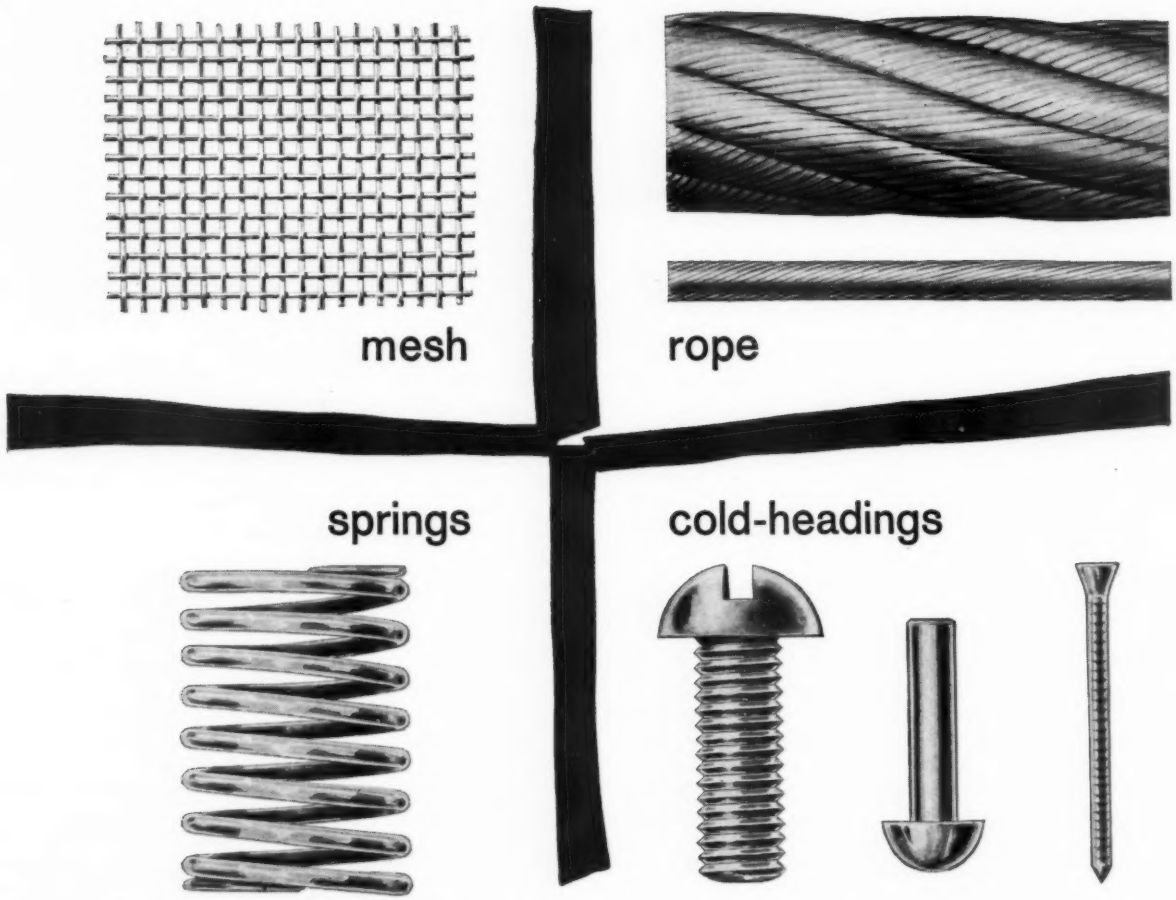
Paints used in this process must be made to contain trichlorethylene as the only volatile thinner; dilution of conventional paints with trichlorethylene will not produce a material which can be safely or efficiently used with this equipment.

A variety of trichlorethylene-thinned paints can be compounded to duplicate the properties of many conventional paints. Paint based on several types of alkyd resins can be formulated; asphaltic materials, including "Gilsonite," and some acrylics, epoxy esters, and chlorinated rubbers can also be used in compounding trichlorethylene-thinned paints.

Where temperature-sensitive resins are used, the lower boiling point (104° F.) methylene chloride may be used. Perchlorethylene (b.p. 248° F.) could also be used in the process, but in most cases, trichlorethylene (b.p. 188° F.) is preferred.



whatever you make in stainless steel wire



let Allegheny quality help cut production costs

You start off with cold-drawn wire of almost every standard grade, tempered to provide many correlations of hardness and tensile strength to fit a wide variety of stainless steel wire products.

You go from there to Allegheny quality—absolute uniformity in every order. Your specifications are faithfully followed, order after order, and that adds up to savings in production costs.

If you make springs, you get uniform tensile strength in every batch . . . and with rope wire.

In weaving wire you get the same deadsoft temper, uniform properties for perfect weaving without ridges.

In cold-headed wire you get absolute uniformity that ties in with automation production processes.

Whatever you make in stainless wire, Allegheny Ludlum offers you adequate stocks of all standard grades for fast shipment. Special stainless steel wire on order.

A-L's technical staff will be glad to help you with problems of selection and fabrication, or offer technical assistance to help you cut shop costs.

Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa. Address Dept. MG-21.

Write for your copy of Allegheny Stainless Wire, Illustrated 20-page booklet, which fully describes analyses, physical properties, corrosion resistance and principal applications of stainless wire.

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INDUSTRY MEETINGS

CHEMISTRY

Physical Chemistry Subject Division Symposium, McMaster University, Hamilton, Ontario, Can., August 30-September 1, 1959.

MACHINERY SHOW

Second Coliseum Machinery Show, Chicago Coliseum, Chicago, Ill., September 7-15.

APPLIED MECHANICS

The West Coast Conference of Applied Mechanics will be held September 9-11, Physics Lecture Hall, Stanford University, Stanford, Calif.

GAS ASSOCIATION

Pacific Coast Gas Association's Convention, Ambassador Hotel, Los Angeles, Calif., September 9-11, 1959.

PRESSED METAL INSTITUTE

Pressed Metal Institute's Annual Meeting, The Stanley Hotel, Estes Park, Colorado, September 13-18.

DIE CASTING

Annual Meetings of the American Die Casting Institute and the Die Casting Research Foundation, Edgewater Beach Hotel, Chicago, Ill., September 16-17, 1959.

INSTRUMENT SOCIETY

The 14th Annual Conference & Exhibit of the Instrument Society of America, Amphitheatre, Chicago, Ill., September 20-25, 1959.

AHLMA PARTS & SERVICE

AHLMA's Seventh Annual Industry-Wide Parts and Service Meeting will be held September 24, 1959, in the Boulevard Room of The Sheraton Towers, 505 N. Michigan, Chicago, Ill.

PORCELAIN ENAMEL

Porcelain Enamel Institute's Annual Meeting, The Greenbrier, White Sulphur Springs, W. Va., September 24-26, 1959.

WELDING

The American Welding Society's Fall Meeting, Sheraton-Cadillac Hotel, Detroit, Mich., September 28-October 1, 1959.

BUSINESS SHOW

The 51st National Business Show, New York Coliseum, New York City, N. Y., October 19-23, 1959.

PAINT INDUSTRIES SHOW

The 37th Annual Meeting of the Federation of Paint and Varnish Production Clubs and The 24th Paint Industries Show, Atlantic City, New Jersey, October 21-24.

HOME LAUNDRY CONFERENCE

The 13th National Home Laundry Conference, Statler-Hilton, NYC, October 29-30.

METALS

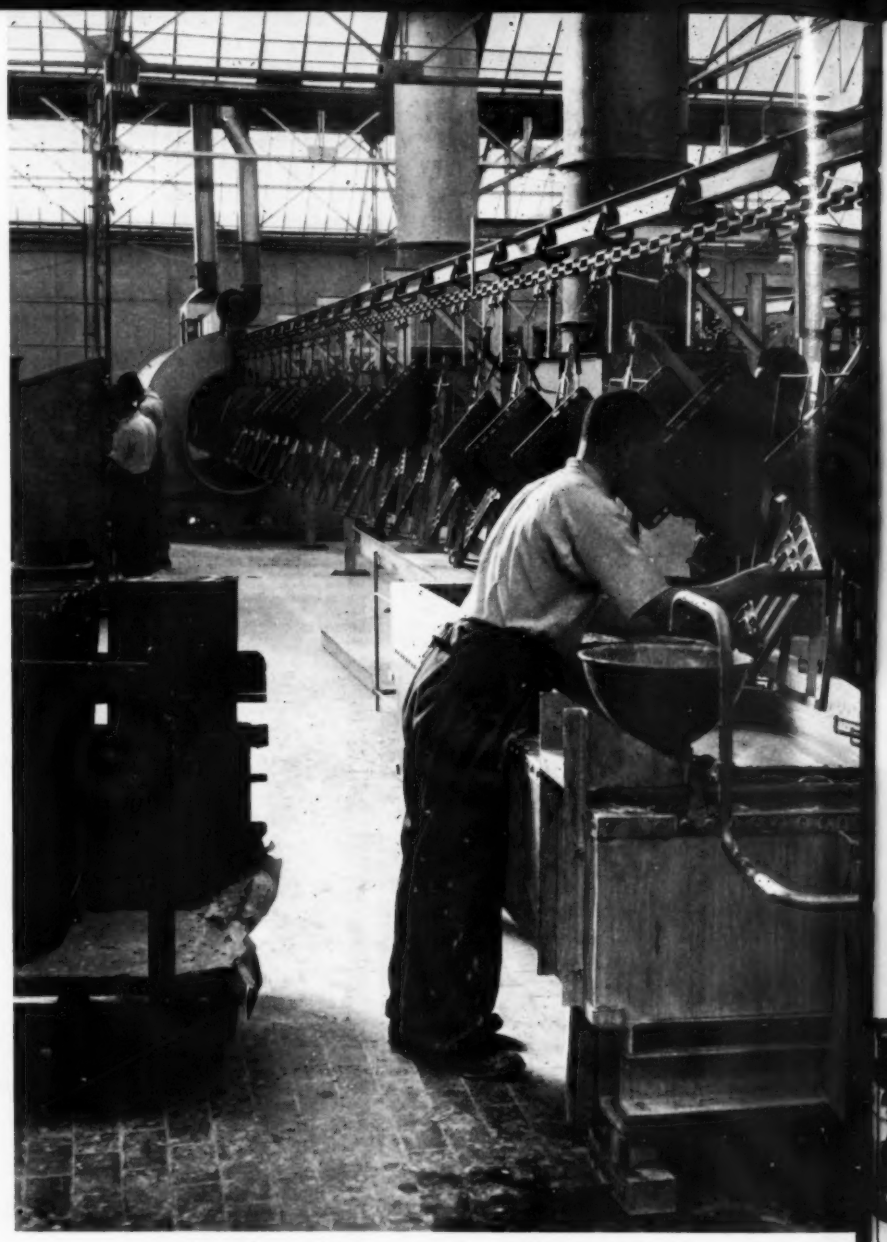
The 41st National Metal Exposition & Congress, International Amphitheatre, Chicago, Ill., November 2-6, 1959.

Brussels range manufacturer incorporates latest methods

THE NESTOR MARTIN CO., BRUSSELS, Belgium has one of the few factories in Europe manufacturing ranges of the unit construction type. From visits to the United States, managers of the company learned that a modern enameling installation with a continuous furnace was badly needed for their plant.

To solve the problem, the Martin Co.'s supplier of enamels and enameling equipment was enlisted to design the new installation. The installation was chiefly concerned with sheet iron cooking ranges, since the company's heating stoves are almost entirely cast iron and largely enameled by the dry powdering process.

At the time, the enameling department was in the center of all installations; upon completion, an efficient, logical production line was put into effect and the company's output has been on the increase ever since. Now, the plant rivals U. S. factories in safety, efficiency, and quality of products produced.



Ground coat dipping operation, with dryer in background.

Trichloroethylene cleaning precedes alkaline cleaner tank

The tanks in the pickling department line up under a monorail in a sequence of cleaning, rinsing, acid bath, acid rinse, nickel flash bath, nickel rinse, neutralizing, and drying.

A problem arises in chemical cleaning because European manufacturers cannot always control the type of grease which is originally put onto the metal sheets. Pre-cleaning before metal forming is too expensive and so the chemical cleaner used must be doubly effective. To counteract this problem, the Martin Co. installed a trichloroethylene tank to be first in the pickle line. This is followed by a normal alkaline cleaning tank and hot and cold water rinses.

The acid and acid rinse tanks are of Java teak, reinforced with Monel metal coils which, in turn, are reinforced with lead at the section where the air and acid meet. The nickel flash tank has a continuous filter and the dry-off tank is of the recirculated, hot air type, equipped with an individual steam battery. The tanks are all installed in a foundation of acid-proof tiles and the pickle room floor is acid-proof tile, also.

After the pickled metal has left the dry-off tank, it is loaded onto a truck and run out to the nearby dippers. The dippers are positioned by two dip tanks, over which the ground coat conveyor passes. The dip tanks are made of stainless steel and the enamel is constantly passed over a magnetic separator by means of a diaphragm pump.

Infra-red, oil-fired dryers used

Both the ground and cover coat dryers are oil-fired, infra-red units. After the ground coat has been applied, the

metal passes through an oval-sectioned passage which enables the ware to be reached by the infra-red rays. The oil is burned in a small, refractory brick combustion chamber, and the smoke passes through a heavily finned, cast iron tube before passing through a chimney to the outside atmosphere.

The cast iron tubes transmit their heat to the air which surrounds the actual plates, forming the passage for the ware. This air is hermetically sealed in its compartment and the heat is radiated through the black iron sheets of the tunnel.

A small amount of air is circulated during the drying process to remove any water vapors. Drying time is less than for normal, hot air, circulation-type dryers, though slightly longer than for electric lamp, infra-red dryers.

Some reinforcing is done on the conveyor, and black edge, when necessary, is applied. These two operations are carried out in conventional spray booths, through which the conveyor passes. The conveyor chain now moves through the factory so that the dried metal can easily be transferred to the furnace conveyor.

After the last takeoff point for dried ware, the dryer conveyor passes through a totally enclosed washoff booth in which water is recirculated by means of a pump and forced through small apertures in vertical pipes arranged on both sides of the conveyor passage. The frames passing through these pipes are thus subjected to a vigorous washing which effectively removes the enamel.

After the initial firing, the ground coated ware can be transferred either direct to the cover coat application conveyor, or to a "bank," where it awaits its turn for cover coat spraying.

Cover coating in modern spray booth

The metal to be cover coated is hung on the conveyor and moved into an enclosed, pressurized spray booth, which accommodates up to six sprayers. The cover coat is then sprayed on by hand.

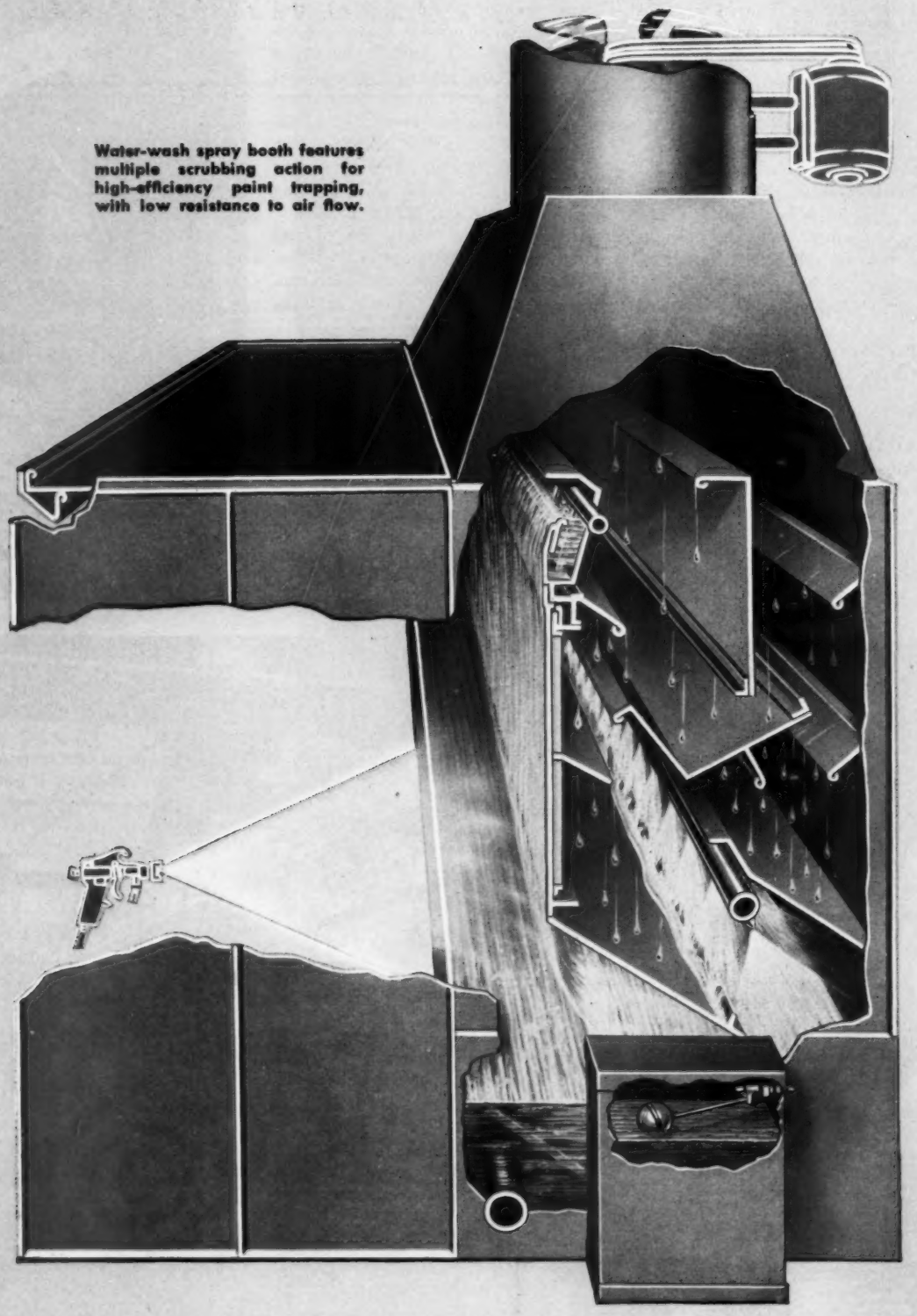
All primary filtering of the enamel laden air is dry, making reclaiming simple. However, before passing to the out-

(Left to right) — Christian Franck, managing director, Arthur Martin, general president of the Martin group, and Georges Martin, president.

to Page 30 →

Fired cover coat inspection, with continuous furnace in background.

Why DeVilbiss offers



Water-wash spray booth features multiple scrubbing action for high-efficiency paint trapping, with low resistance to air flow.

you the best value in spray booths today

- **Standardized parts and modular, prefabricated steel panels provide more rigid, more versatile, more durable booths at lower cost!**
- **Specific models, standard or custom-designed, for every type of spraying operation —automatic, electrostatic, or manual!**
- **Each model and type is job-rated, job-proved for guaranteed performance!**
- **Manufactured to the standards of the National Board of Fire Underwriters for spray booths as recommended by the National Fire Protection Association!**

When you choose a DeVilbiss spray booth, you get the unit best suited to your purposes, *at great savings*. That's because DeVilbiss offers economy of operation, efficiency of performance, and ease of installation made possible by scientific adaptation of modular design principles.

Bolt-together construction saves erection time; offers flexibility for revamping or moving booths as operations and plant layouts change. Design and construction features provide excellent paint-trapping efficiency; stay cleaner longer; save maintenance time and expense.

So contact your nearest DeVilbiss branch office for complete details on any of the more than 500 standardized spray booths . . . or write for a copy of Spray Booth Catalog I-7000.

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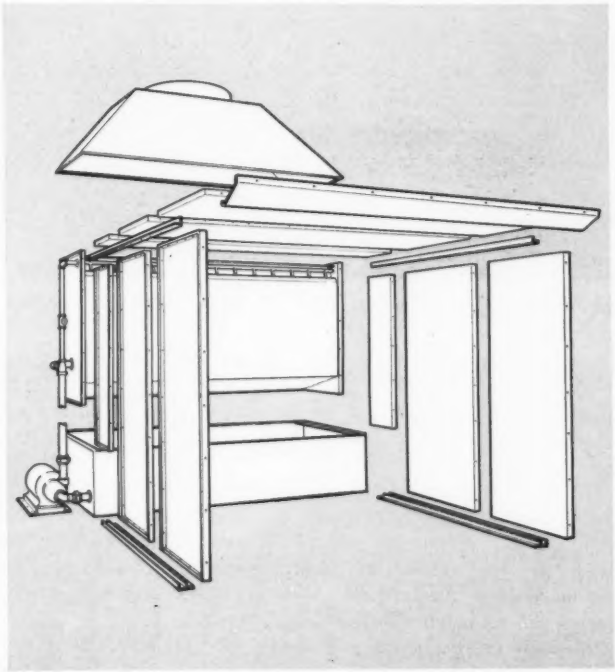
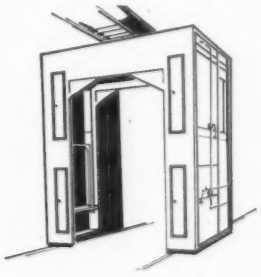
SPRAY EQUIPMENT • HOSE & CONNECTIONS • MIST COOLANT UNITS

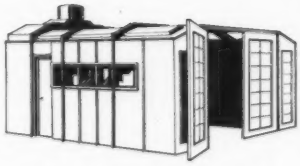


Bolt-together panels of 18-gauge steel, rolled edges, mitered and welded corners provide built-in reinforcement for DeVilbiss Spray Booths. No additional supports or guy wires needed.

Leg-type Spray Booth

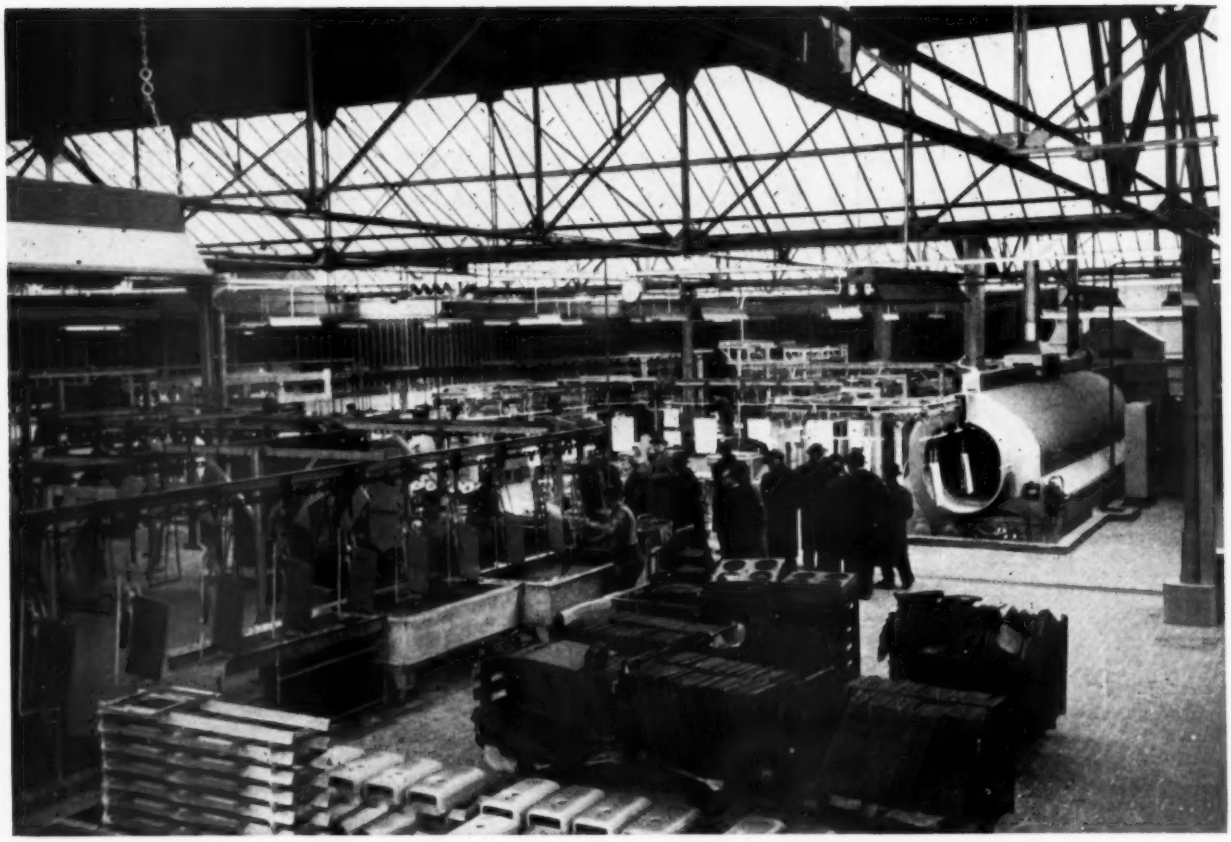


Traveling Spray Booth



Enclosed Booth with dust filters

Down-Draft Spray Booth



General view of the Martin plant. Note ware being dipped in foreground. Overall cleanliness of operation is most manifest here.

→ *from Page 27*

side atmosphere, the exhausted air is washed to avoid enamel deposits on the roof and to eliminate dust outside the plant. This air wash is accomplished in a water wash booth without the use of pumps.

The air for pressurizing the spray booth is taken from the outside, so as not to upset the air balance in the shop, then filtered, and passed over a steam heater battery for the correct temperature. Vestibules are provided at both ends of the booth, and a certain percentage of air is fed into these vestibules. The inside of the booth is always free from enamel dust.

The conveyor now passes from the pressurized spray booth through a small, open-type spray booth used for difficult articles, into the cover coat dryer which, as mentioned, is the same type as the ground coat dryer. After drying, the chain comes close to the furnace chain to facilitate direct loading, then passes into another banking area to allow storage of the ware, if necessary.

Furnace has elaborate control panel

Firing is carried out in an oil fired furnace. An elaborate instrument panel is provided for the furnace. Apart from the electronic indicating, recording, and controlling potentiometer, which records the temperature in the muffle of the furnace and controls the burners, a second, three-point temperature recorder has been installed which records the temperature at both sides in the combustion chamber and also at the base of the stack.

A CO_2 & CO meter records the products of combustion in the stack and in conjunction with the temperature recorders, and a permanent draught gauge enables an accurate control of the furnace combustion to be maintained.

Firing time is controlled by means of a six inch diameter, chain speed indicator. Two pushbuttons can be used to adjust the chain speed to any desired setting between one and 15 feet per minute. Under the Martin Co.'s old system, an operator would hang a small weight on the chain and stand by with a stop watch while the chain moved past some previously set measuring board.

Plant safety devices

If the oil or air pressure should drop, the furnace shuts off automatically. Should the temperature of the furnace rise above normal levels due to control equipment failure, a silver temperature limit fuse will melt, breaking an electric current to shut off the furnace. If the furnace should cease to function for any

Cover coat spray booth.

reason, a warning signal calls attention to the breakdown.

A large variation of the conveyor speed has been made possible by the use of a hydraulic speed changer in the caterpillar drive unit. The furnace and dryer conveyor chains have been standardized.

All doors between the enameling shop and the rest of the factory are of the double swing type for easy passage of fork trucks. The doors are made of a transparent plastic material. The floors of the enamel shop and the mill room are sloped to facilitate drainage.

Stainless steel in the mill room

A mezzanine for frit storage and mill loading is built above the mill room itself. Frit arriving in cars is loaded onto an escalator, which transports it to the mezzanine floor. Here, the frit and mill additions are weighed and fed into the mills through openings in the floor and through stainless steel chutes.

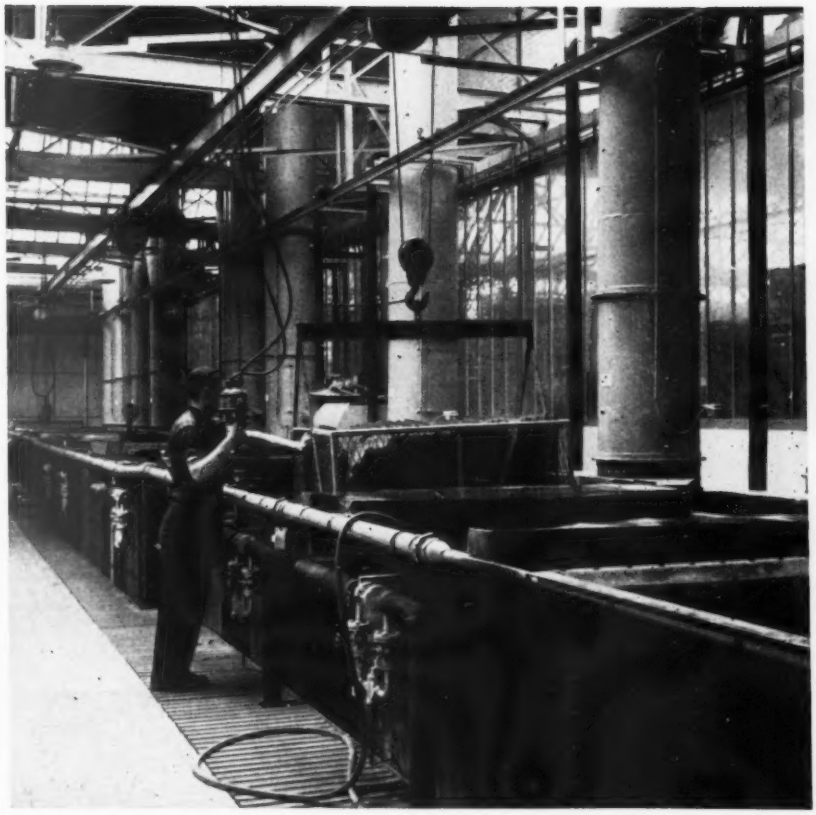
After the enamel is milled, it is released into a stainless steel tank mounted on wheels. The tank is pushed to the other side of the mill room where stainless steel storage containers are positioned on an elevated platform. The enamel is then pumped into the storage containers, after having first passed through a magnetic separator and a centrifugal sieve.

The slip in the storage containers is continually agitated by means of stainless steel paddles which move slowly through the enamel. These containers are arranged in a straight line, with ground coat slips at one end and cover coat slips at the other. Separate centrifugal sieves are provided for ground and cover coat slips.

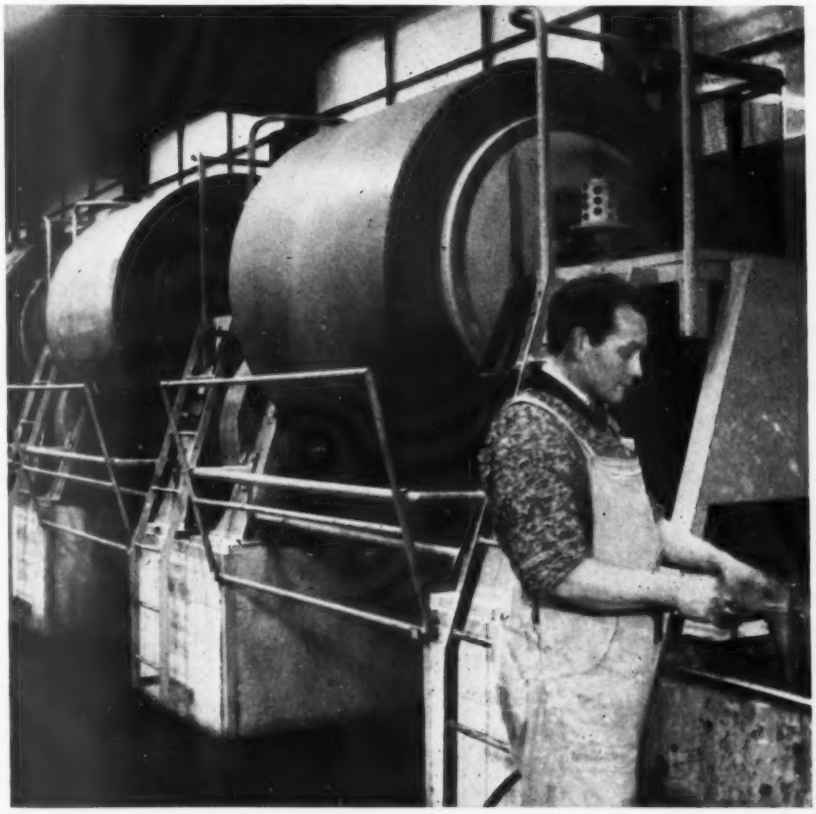
At each end of the line of tanks, there is a vertical drain pipe with a funnel mounted on top. When the centrifugal sieve has been used, it is run along a monorail on which it is mounted until it is over the funnel. Here it is washed. The dirty water runs down through the funnel and into the drain.

When the enamel is required for use, pressure feed containers from the spray booths are wheeled into the mill room. The enamel flows, by gravity, through the storage containers to the pressure feed containers.

A feature of the plant is that the mill room floor is completely covered with red tiles, as is the whole floor of the enamel shop. This and the other carefully planned innovations makes the Belgium plant stack up quite favorably alongside its American counter-parts.



Tanks in the pickling department line up in the following sequence: cleaning, rinsing, acid bath, acid rinse, nickel flash bath, nickel rinse, and neutralizer. (Below) — Mill room cleanliness is maintained through use of tiles on the floor.



Inland "job-tailored"
Cold Rolled Sheets work better

product: VACUUM CLEANER TANK PART

problem:

produce a handsome vacuum cleaner tank of the upright type, designed in a silhouette for consumer eye appeal. The operation to be a single deep draw. Because of the depth of the draw and the severe shaping, a sizeable amount of breakage could result. The required draw also produced stretcher strains in the shaped tank which handicapped later finishing operations.

solution:

quality standards were met and the problem overcome by "job-tailored" Inland Cold Rolled, Drawing Quality, Aluminum Killed Steel. This steel, specifically recommended for the job, successfully took the deep draw and pattern formation required. Stretcher strains were eliminated and an excellent surface obtained for all subsequent finishing.

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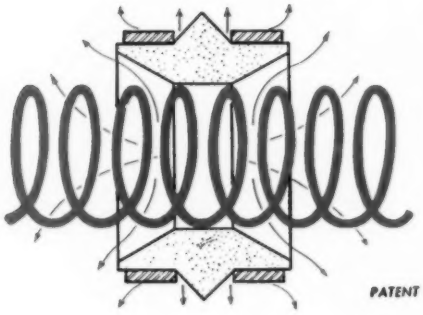
NEW EXCLUSIVE TEP HEAT DESIGN NOW GIVES YOU LONGER HEATING ELEMENT LIFE, BETTER PERFORMANCE



PATENT PENDING

Cross-sectional view of new TEP insulator and cross-bar design. More space for air circulation assures better heat dissipation, longer wire life.

OTHER TEP HEAT EXCLUSIVES

- FLOATING FRAME CONSTRUCTION — "TEP" patented feature allows unit frame to breathe; flexibility lengthens frame life. Rigidly welded frames distort, or welds break.
- SURE-LOCK INSULATOR SUPPORTS — specially designed by "TEP" eliminate dislocating and subsequent electrical failures.
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- SPECIAL NICKEL PLATING — exclusive "TEP" process assures a chrome-like finish, eliminates corrosion.

TEP Products

New, Slotted Cross Bars, Diamond-Shaped Insulators Reduce Heat Build-Up in Critical Zones

Striving always to build better heating elements and improve performance, TEP Engineers have now developed a new, improved method of supporting insulators that insures faster heat dissipation. The experience of TEP Engineers over the years has proven that most heating element failures occur at points where heat is trapped inside the insulators. High temperature build-up in these areas has a direct effect on wire life.

Open Construction Prolongs Wire Life 50%

As illustrated, the new exclusive TEP Insulators are designed with a diamond-shaped cross-section and are mounted and retained in slotted, overlapping cross bars. This provides more space for air circulation through the insulator, assures faster heat dissipation, and increases wire life as much as 50%. In addition, TEP Insulators are made from porosity-controlled Steatite which reduces micro amp leakage by controlling moisture absorption. These and other exclusive TEP Heat features give you longer heating element life and better performance.

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MANUFACTURERS OF OPEN COIL HEATING ELEMENTS, SWITCHES, SMALL DIE CASTINGS

Shallow depth, side access terminals feature

NEW RANCO C21 CYCLING THERMOSTAT

with multiple circuit selector switch

The new Ranco C21 Series cycling thermostats are designed to operate window or unit air conditioners under cross ambient conditions for "cooling" only, "heat-cool" combinations or reverse cycle operation in conjunction with Ranco reversing valves and automatic de-icer controls. The new unit is designed for shallow mounting where space depth is a problem and provides easy side access to all terminals. The control can be supplied in the C21-7000 series as a thermostat only or in the C21-8000 series with the new rotary selector switch (independent in operation to the cycling control) providing up to four circuits for compressor cooling or strip heating and step operation of compressors or heaters. The control can be supplied in two ways. With SPST switch, the control uses terminals #1 and #2 for cooling only. With SPDT switch, for "heat-cool" operation, terminals #2 and #3 are used in the heating cycle with contacts opening on temperature rise. Operating temperatures are changed by a profile cam rotated by turning the dial shaft. Either "constant cooling" or "conditional OFF" positions can be provided separately on C21-7000 series only, which is similar in operation to current C12-5000 series.

See the possibilities for your product? For more specific applications within the series, contact Ranco.

C21 SERIES SPECIFICATIONS

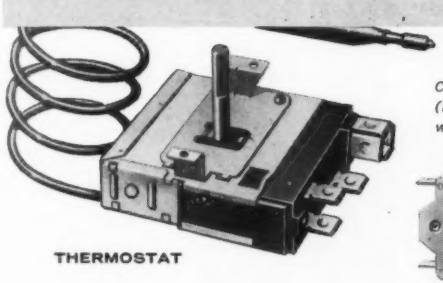
DIFFERENTIAL: 3° minimum.
RANGE: 35° dial range "warm" to "cold." Greater range available.
TEMPERATURE TOLERANCE: ± 2° at set point.
RATINGS (SPST & SPDT): 20 amps. full load, 78 amps. locked rotor at 115/230 volts a.c.; 20 amps. at 250 volts a.c., non-inductive.
TERMINALS: 3 quick-connect or 8-32 screw type. 4-prong, quick-connect dummy terminal available for additional connections. No terminal cover provided.
SIZE (including mounting bracket and terminal extensions): 1¾" H. x 1⅞" W. x 2.883" L. for shallow mounting with side access where space depth is a problem.
MOUNTING: 6-32 tapped holes on 1⅜" horizontal or 1¾" vertical centers. Special spacings and brackets available on request.
OPERATION: Operating temperatures are changed manually by turning dial shaft clockwise from "warm" to "cold" positions, rotating a profile cam that changes the pivoting point of the bellows lever.
KNOBS: Not made or supplied by Ranco.

ROTARY SWITCH SPECIFICATIONS

DRIVE: Dial shaft drives series of switch cams and snap cam to operate two leaves that can be internally connected or separated electrically.
SWITCHES: Two SPDT in insulator case, each with "center-OFF" positions. Snap cam rotates manually between two fixed, flat springs for positive switching action between selected circuit positions.
SELECTOR POSITIONS: 4, 6 or 8 positions in 360° dial throw is standard. 3, 5 or 7 positions can be arranged for.
RATING: 16 amps. inductive, 20 amps. non-inductive at 125 or 250 volts a.c. Locked rotor current 78 amps. at 125 volts a.c.; 72 amps. at 250 volts a.c.
KNOBS: Not made or supplied by Ranco.

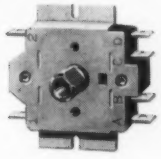
"DIAL-WITHIN-A-DIAL" MANUAL CIRCUIT SELECTOR

Newly designed rotary selector switch controls maximum of four circuits. Dial positions to open all circuits or close one or two circuits simultaneously. Switch can be provided as separate unit with standard solid ¼" brass shaft (⅛" to ⅜" shafts available). Standard "dial-within-a-dial" application has an opening for ¼" shaft inside hollow ⅜" O.D. shaft. Smaller shaft diameters available with correspondingly smaller center hole. Switch cam profiles arranged so two switch leaves can occupy three positions: making outer terminals A-D; center-OFF; inner terminals B-C, all in eight possible circuit-made positions including "off." Standard flush-mount switch (shown) for minimum depth. Center mount and special brackets to mount switch above flush surface can be provided for. Switch can be supplied on current Ranco Control Series A10, A13, A14, A15, C12, C17.



THERMOSTAT

C21 control can be supplied in C21-7000 Series (thermostat only) or C21-8000 (thermostat with rotary circuit selector switch).



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. . . reports one of the world's largest manufacturers of clothes dryers from its all-important records of usage over a period of several years.

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199

13th Annual Salute
to the Home Laundry Appliance Industry

FEATURES

FROM THE EDITOR'S DESK

This marks the 13th consecutive year that our publication has designed a "book within a book" in the form of this special section devoted exclusively to the home laundry appliance industry. It has become a real point with our editors to endeavor to increase the interest and "meat" contained in each succeeding issue.

With factory sales up 19 per cent for the first six months of 1959, and industry leaders expressing confidence in the continuation of good business, it is an extremely happy time to again present this salute to the industry.

As usual, our design features are playing "nip and tuck" with the release dates on new 1960 products. In this connection, we want to acknowledge the cooperation of top executives, public relations officers, plant executives and engineers at Norge, Maytag, and wherever the time element called for that extra degree of cooperation so essential to good timing.

DANA CHASE
Editor & Publisher

Here's how Westinghouse TURNED GI PLASTICS INTO PROFITS!

THE PROBLEM: To create high quality, light weight, non-corrosive, economical parts for the new Wash-'N-Dry Laundromat.

THE SOLUTION: Through the combined efforts of *General Industries'* Design and Engineering Departments and the Engineering and Purchasing Departments of Westinghouse, component parts molded of special plastic material were developed . . . which provided better performance at lower costs than the metal parts they replaced.

Westinghouse brought this problem to *General Industries* because Westinghouse had learned by experience that — *it pays to rely on GI.* Westinghouse and *General Industries* joined design and production talents to produce for the Laundromat, plastic parts which would not be affected by the corrosive action of certain detergents. *General Industries* engineering and design know-how backed by modern production facilities solved the problem, resulting in higher quality, lighter weight non-corrosive components and substantial savings, reflected not only in the cost differential between the new and the old part but also in freight charges of the finished product.

When the new Westinghouse Wash-'N-Dry Laundromat was on the drawing boards, *GI* again helped to provide some of the answers to problems that always occur in the development of a new product.

When you have a design and cost problem, you too, can turn "Plastics into Profits". *General Industries'* free design and engineering consultation facilities are at your service. Phone or write today.

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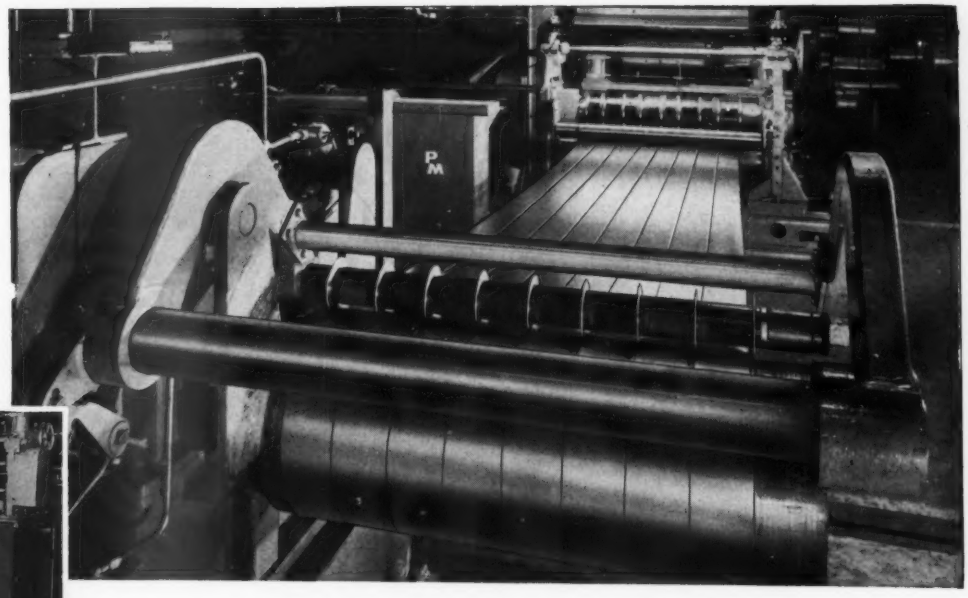
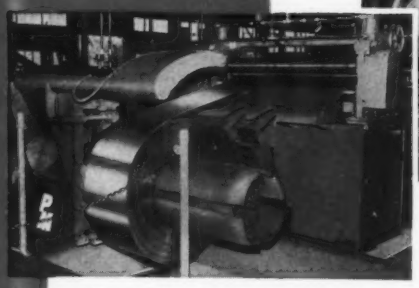
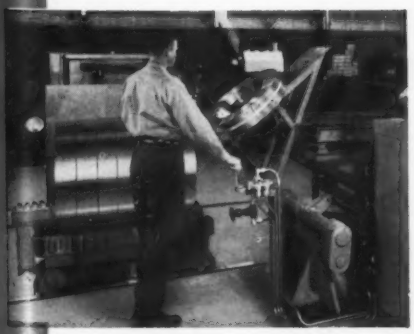
PM slitting lines are designed for efficiency. This complete, highly automated PM line in a warehouse handles a variety of metals — steel, stainless steel, aluminum, etc. The picture shows one of the time saving features of the line, a PM overhung arm separation device, used instead of heavy, individual large diameter discs.





PM uncoiler with a peeler that feeds into the flattener without manual handling — this device provides a safer, faster operation on this line, which handles gages up to 3/16", widths to 48", and coils as heavy as 30,000 lbs.

PM automatic edge control guides, .004 strip to slitter without edge damage on this light gage stainless line.



Automation in upending, banding, and downlaying coil saves time and dollars.

To get the kind of Slitting Line YOU need, get a P/M PRODUCTIONEERED* LINE

PM lines are built to fit the user's needs. To survey your needs, and determine the best answer for your requirements, make use of the first step in *PM Productioneering**, a talk with the PM man.

You will learn from him that PM Productioneered lines include heavy duty equipment (to handle up to ¼" gage steel); lines designed for lighter gages down to .002"; lines that handle a variety of metals including steel, stainless, aluminum, brass, copper; lines for a full range of coil weights up to largest handled by mills . . . Some are highly automated. Some are specially designed to fit difficult layout situations in crowded plants. Component parts of these lines are standard, but the flexibility of Productioneering tailors each line to the specific situation.

Flexibility in meeting individual needs makes PM lines differ, but PM Productioneering puts one common denominator into all PM products—maximum profits for the owner. Get in touch with a PM man today — there's no obligation.

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Mentor, Ohio

***PRODUCTIONEERING** is the P/M way of working so engineers who supervise equipment designing have first-hand knowledge of problems encountered by sheet and strip processing line users. In working with P/M you work with responsible engineers who apply their skill to solve your problems.

P/M PROCESSING EQUIPMENT INCLUDES:

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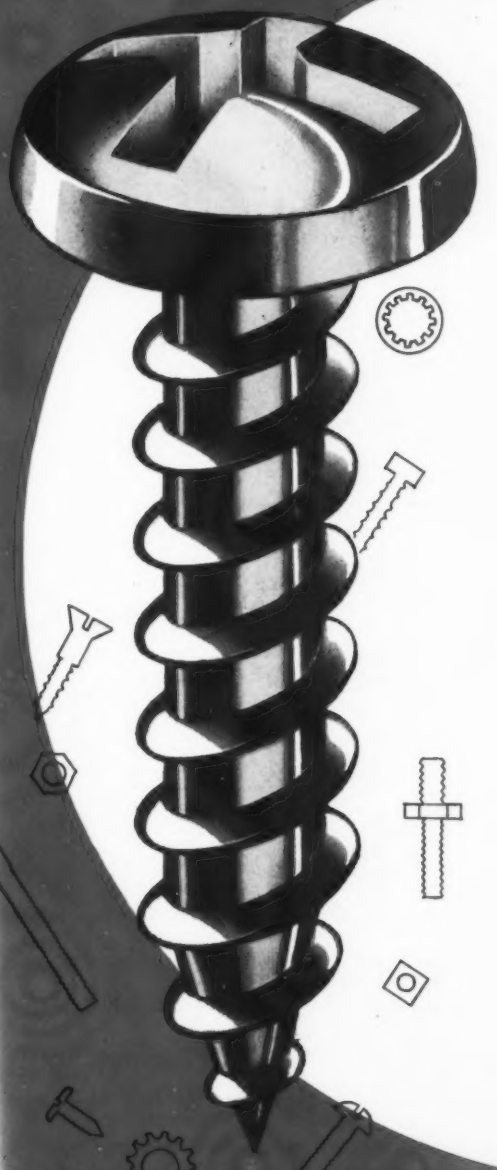

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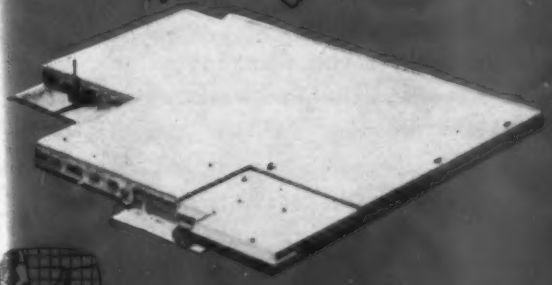

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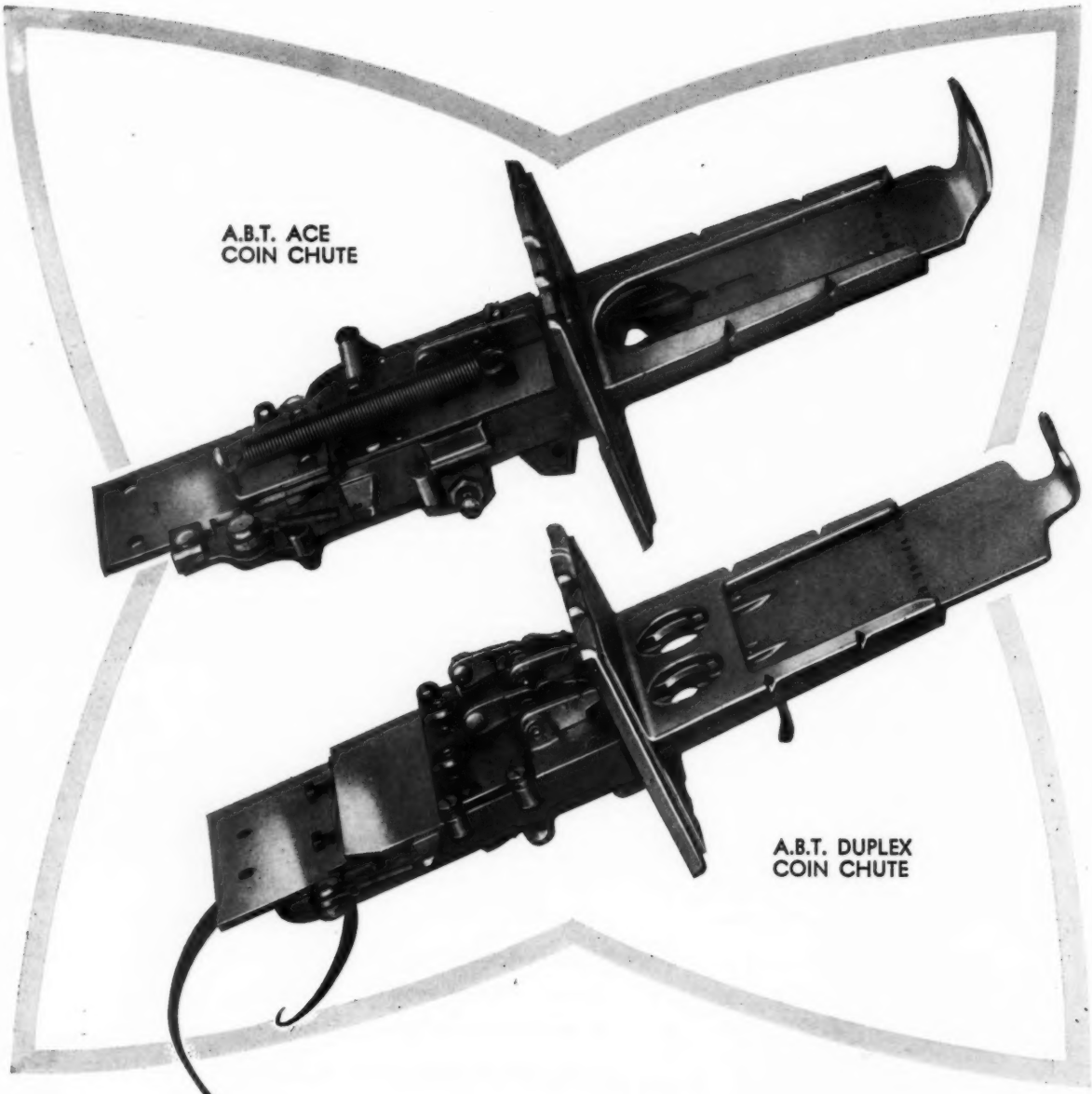

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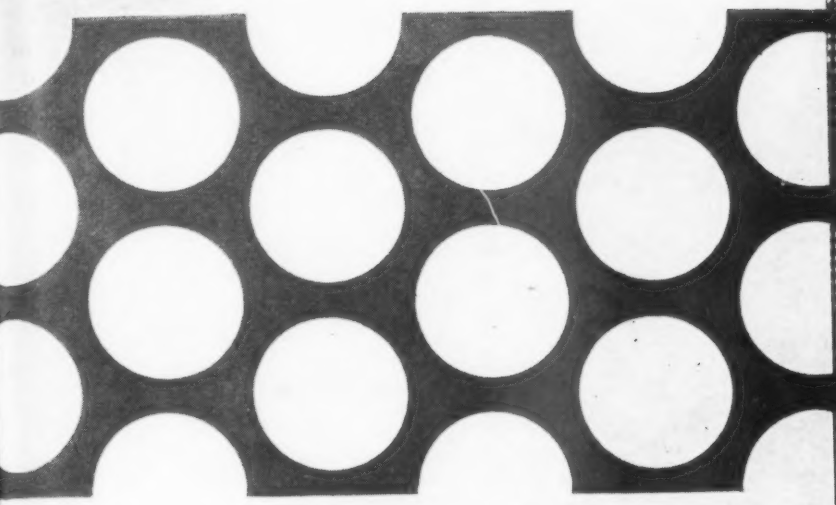

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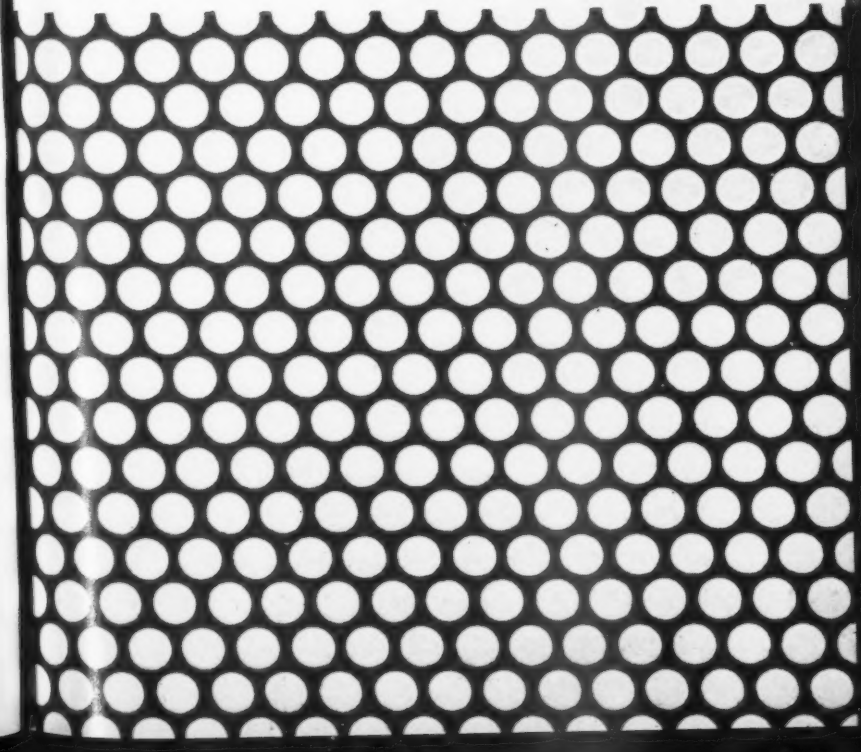

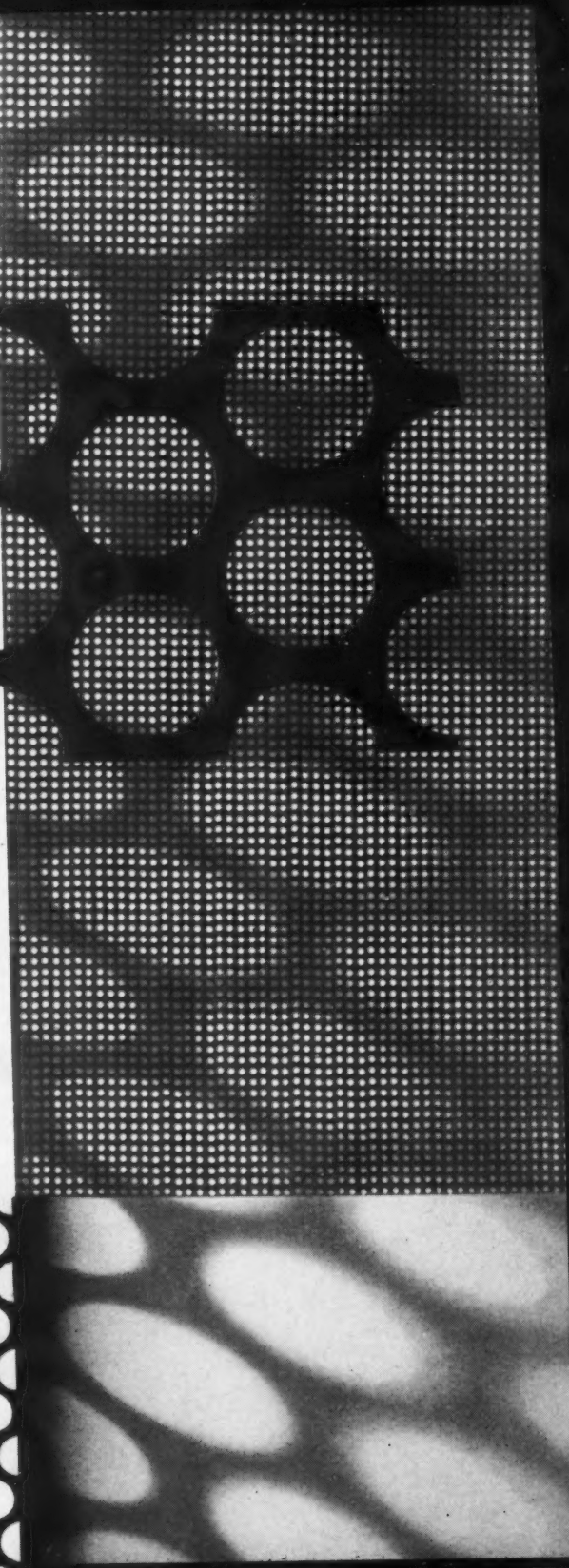

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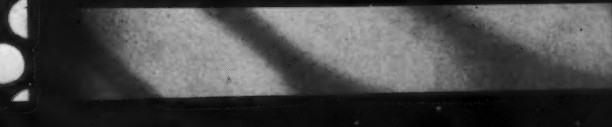


Details of the first Maytag combination washer-dryer

AFTER TEN YEARS of extensive research and testing, The Maytag Co. has unveiled its first combination washer-dryer, and the result should attract the interest of homemakers interested in a combination with space-saving features and simple, unified controls.

With overall dimensions of 34 inches wide, 36 inches high, and 25½ inches deep, the washer-dryer is a full 23 inches less in width than the Maytag washer and dryer set side by side. In addition, the unit features a no-vent installation and uses a water condensation system requiring only normal plumbing facilities, and no standpipe. It may be set flush on an inside wall.

The unified controls automatically regulate both the washing and drying functions without having a set of separate controls for each function. On the rear panel, selectors are divided into three groups: (1) wash and dry timer control, (2) water temperature control, (3) and fabric control. All three are inter-related.

The wash and dry timers are consolidated on the same dial. The housewife may wash and dry, dry only, or wash and damp-dry. Wash time is selective from 1-15 minutes; dry time is selective from 1-100 minutes. Controls may be changed to repeat or omit any phase or operation.

Fabric, water temperature settings

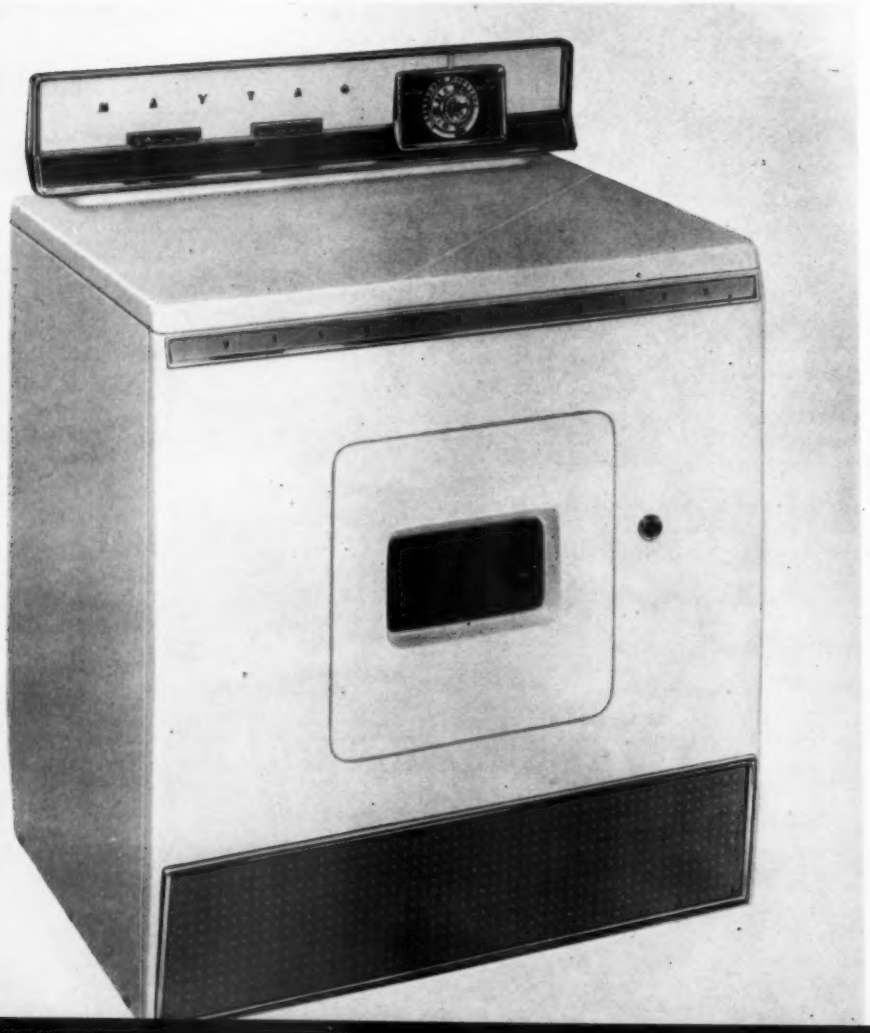
The water temperature control has three settings. They are HOT, WARM (thermostatically set at 100° F.), and COLD. A built-in hot water heater may be cut in on the HOT setting to raise wash water temperatures two to four degrees per minute to a maximum of 165° F. Rinse water temperatures are regulated automatically. A warm rinse is provided with HOT or WARM wash water settings for regular and delicate fabrics; a cold rinse is provided with COLD water wash on all fabric settings, and on all wash-and-wear fabric settings, regardless of wash temperature setting.

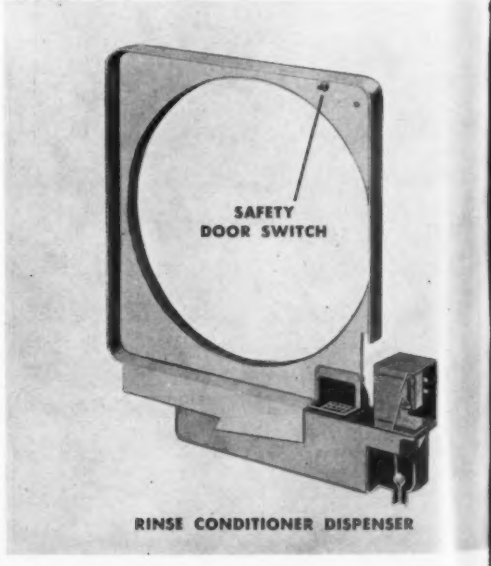
There are also three fabric settings (regular, delicate and wash-and -wear). Pushing any one of these controls starts the unit. A maximum drying temperature of 195° F. is automatically programmed with a regular fabric setting, and a maximum of 160° F. for delicate and wash-and-wear settings. Thus, to set a typical program, the user need only press the fabric button desired, push the proper water temperature button, and set the timer dial.

Maytag has paid specific attention in its design of the new combination to the problem of the wash-and-wear cycle. To insure wrinkle-free clothes, three features have been added. They are an automatic cold water rinse, an automatic rinse additive injection, and a special chime signal which lets the user know when to remove the clothes. The rinse conditioner dispenses additives (fabric conditioners, water conditioners, bluing) into the final rinse. Since prompt removal of clothes after the wash-and-wear drying cycle is completed produces best results, the chimes eliminate the necessity of standing by the unit to the end of the cycle.

Washing and drying principles

The 26-inch diameter, porcelain enameled, perforated wash basket pro-





vides tumble-action washing at 52 rpm. The perforation feature drains any soil or lint in the wash to the bottom. A fully automatic water level control and metered fill yields the correct water level, according to the size of the load. The wash water pool is approximately six gallons for the average load, and average water consumption in combined washing and rinsing phases is 24 gallons.

The 52 rpm tumble drying system features Maytag's water condensation principle. Here, a cold water mist within the condensation chamber draws moisture out of air that has circulated through damp clothes. Moisture and suspended lint thus collected are pumped down the drain, and dry, clean air is recirculated in the closed system past a nichome heating element. The air is rewarmed, and the cycle begins anew. A pump protection screen prevents foreign articles from entering the mechanism.

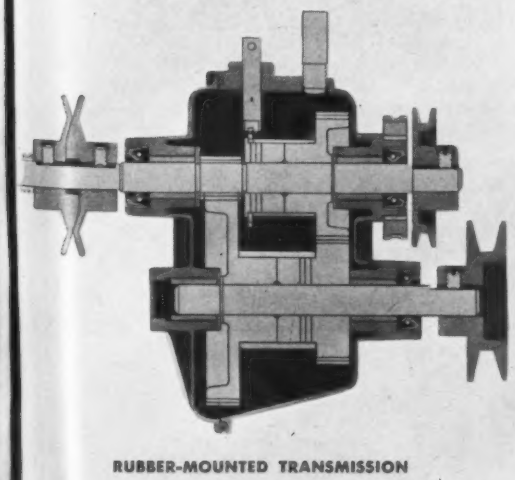
The load tumbles continuously through the drying phase and through a five-minute, no-heat cooling period at the end of the drying cycle. In drying, water is taken out at the rate of 3.2 pints per minute. A regulating thermostat controls the proper drying temperature, as selected by the fabric setting.

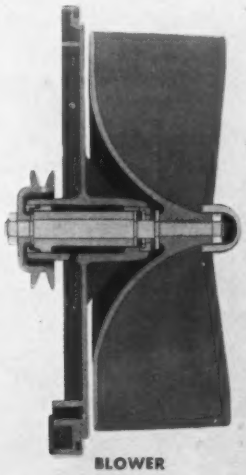
Sponge action in damp-dry phase

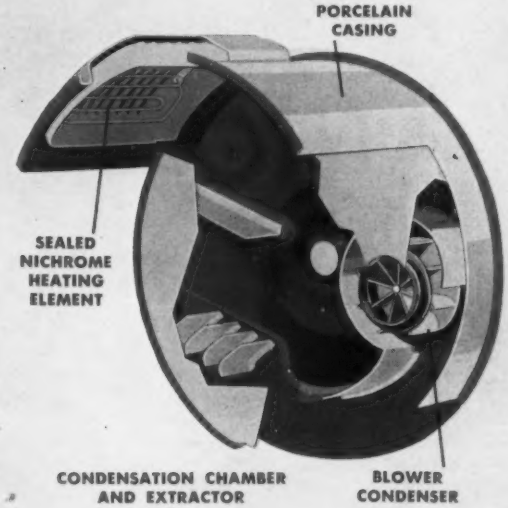
Between the rinses and the actual drying phase, thre is a damp-dry phase. Here, alternating intermediate-speed spins (305 rpm) and the slow-speed tumbling (52 rpm) extract the water. This action has been likened to the principle of squeezing a sponge. If the sponge is squeezed, repositioned in the palm of the hand, and squeezed again, more water can be extracted than by squeezing as hard as possible one time.

For regular fabrics in the damp-dry phase, the heating element automatically cuts in to provide an eight minute, 125-135° F. pre-warming. During spin periods of either the rinse or damp-dry phases, the unit slows to the tumble speed if an unbalanced condition occurs in the load. After the clothes re-distribute themselves during a 30-second tumble, the unit returns to spin speed.

The door-operated safety switch stops all operations whenever the door is opened, and acts to resume operations whenever the door is again closed. A push-button door release at knee-level offers convenience in loading. The unit has a fluorescent light on the control panel to illuminate the work surface, and an interior light operates in the drum when the door is opened.


RUBBER-MOUNTED TRANSMISSION


BLOWER



Cold Bonderite Earns Supplier of the Month Award for Parker

DETROIT, MICH.—The Parker Rust Proof Company, pioneer manufacturer of surface treatments for metals, was named "Supplier of the Month" by the Home Laundry Department of General Electric Company in a ceremony at Louisville.

The award and citation were presented by R. J. Keyser, Manager of Manufacturing of the Home Laundry Department of General Electric Company, to R. W. Englehart, President of Parker Rust Proof Company.

Basis of the award, according to the citation, was the performance of Cold Bonderite, installed in the finishing system on recommendation of Parker engineers. The material substitution in three phosphate units resulted in a considerable savings per year in steam costs and has also lowered the ambient temperatures of the paint enclosures in a very positive way. This material, an exclusive product developed by Parker Rust Proof Company, was installed without additional cost in materials, investment or labor.

Everybody's enthusiastic about Cold Bonderite! Since its introduction a year and a half ago, over one hundred plants have installed this revolutionary new system. Cold Bonderite System solutions operate at temperatures 40° to 75° below temperatures in conventional systems, saving important sums in heat costs, maintenance and equipment.

Cold Bonderite can be a winner in your spray finishing line, too! Call in the Parker man right now.

Since 1914—leader in the field

Parker Rust Proof Company

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BONDERITE corrosion resistant paint base

BONDERITE and BONDERLUBE aids in cold forming of metals

PARCO COMPOUND rust resistant

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TROPICAL—heavy duty maintenance paints since 1883

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Performance* Keeps it Sold!

ACROPON is, without question, the most beautiful finish ever introduced . . . its performance* characteristics are *the best!*

We invite you to compare ACROPON with other Acrylics or previous conventional finishes. Where performance really counts, you'll discover ACROPON is better than even *the most expensive finish.*

Ask our field engineers to call and prove that ACROPON will outperform any presently known system.

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Ten important points of association operation

by Guenther Baumgart • PRESIDENT, AMERICAN HOME LAUNDRY MANUFACTURERS ASSN.

THE AUTHOR

IT IS DIFFICULT to step back and view wholly-objectively that which we live and breathe day in and day out. However, years of experience with association management and study of the ways many different industries are organized, make certain fundamentals quite clearly evident.

Therefore, in answer to your request is the following outline of certain of the principal ingredients which, in my judgment, are indispensable to a strong trade association. Included as examples are reasons why AHLMA effectively represents the home laundry appliance industry.

Member participation

First, and most important, the members of a good association must be interested and active. They must work effectively, giving personal time as well as dues. AHLMA is fortunate in that it receives more than normal attention and interest from high-ranking executives of member companies. They participate; they hold office. As nearly as I can tell from the records, this has been true of AHLMA for the forty some years of its existence and is why it has weathered some very severe storms.

In addition to top management, technical committees must have as members outstanding department heads from member companies — leaders in their respective fields. This, too, is fortunately true in nearly every AHLMA committee: Engineers, Home Economists, Public Relations, Service, and the others.

Year-'round operation

Second, an effective trade association must be a year-'round, day in, day out operation, not just "an annual convention." Members, as well as staff, work on important projects throughout the year. In AHLMA's case, a typical procedure is two to five meetings a year for each of some twenty committees and their subcommittees — each meeting of which includes the following steps:

A. Chairman, subcommittee chairmen, and staff digest work to be done and prepare committee meeting agenda, complete with background statements of issues to be decided.

B. Committees meet and pool wisdom to determine policy.

C. After the meeting, chairman and subcommittee chairmen and the staff (often individual members, too) carry out decisions and collect material for next meeting.

D. Staff accurately records the decisions and other proceedings — in addition to being a permanent and official record, minutes are an invaluable business communication confirming decisions, informing the absentees.

E. Start work on the next meeting. This is a continuous process — as soon as one meeting is over, the work on the next starts.

Third, a successful trade association must have a competent, professional staff, preferably consisting of particular balance of experienced, vigorous, well-trained and intelligent p e o p l e. In AHLMA, in accordance with a management consultant's recommendations, (with which I whole-heartedly agree) the staff has been built around formal education and experience in economics, statistics, marketing, business management, journalism, public relations and promotion and home economics.

Legal counsel important

Fourth, in today's complicated business picture, it is essential that trade associations have outstanding legal coun-

→ *to Page HL-47*

METAL PRODUCTS MANUFACTURING editors cover some twenty-two association meetings during a year. These include annual meetings and technical sessions of the leading industries and associations throughout the appliance and fabricated metal products field. The American Home Laundry Manufacturers' Association represents one of the groups that has held high rank in the appliance industry as a representative of both the end product manufacturers and suppliers to the industry. METAL PRODUCTS MANUFACTURING editors have covered each AHLMA meeting since the publication was started. In connection with this 13th annual special section devoted to the Home Laundry Appliance Industry, we have asked Guenther Baumgart, president of AHLMA, to give us his views on what it takes to make a strong trade association in the appliance industry.

One of the new gas-heated Norge clothes dryers, showing the re-styled "floating" back guard mounted on two die-cast chrome plated pedestals. This model includes the new sprinkler. Its small water tank cover is at left of the top.

Convenient sprinkler a feature of new dryer design

by V. C. Rice • VICE PRESIDENT OF MANUFACTURING AND ENGINEERING, NORGE DIVISION, BORG-WARNER CORPORATION

MPM FEATURE

Design of home laundry dryers produced at the Effingham, Ill. plant of the Norge Division, Borg-Warner Corporation, has undergone a few major, and some lesser, improvements, which are now being made available in the 1960 line. These changes were motivated by a desire to increase user convenience, to simplify and to improve manufacturing procedures, and to better appearance or styling . . . all to the end that sales appeal would be increased.

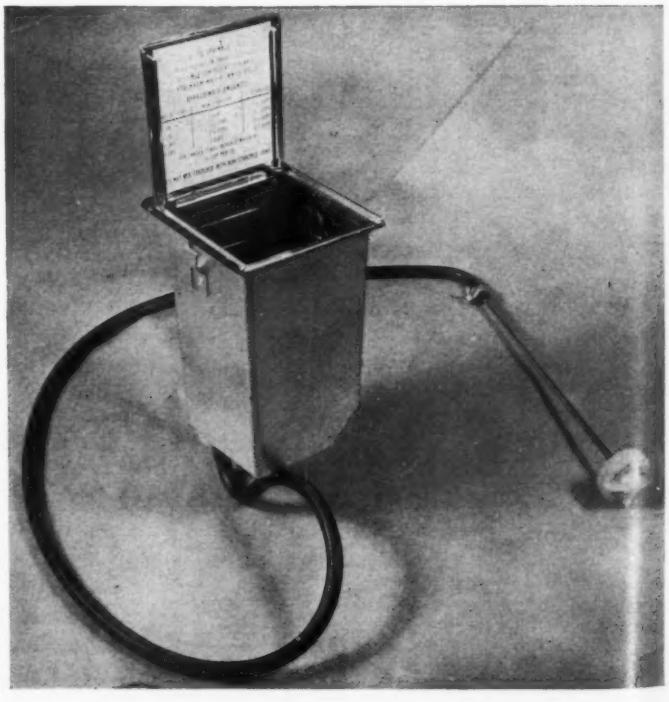
In most respects the basic design, which has proved highly satisfactory, is not altered. Thus the mechanical and most operational features remain unchanged except in a few particulars that promote user convenience.

Both electric and gas models are continued, and can easily be set to provide two or three drying temperatures to suit the fabrics to be dried. Drying time also can be set to afford the length of cycle appropriate for the conditions to be met. All models use fans of large diameter turning at low speed to ensure quiet operation.

The new sprinkler

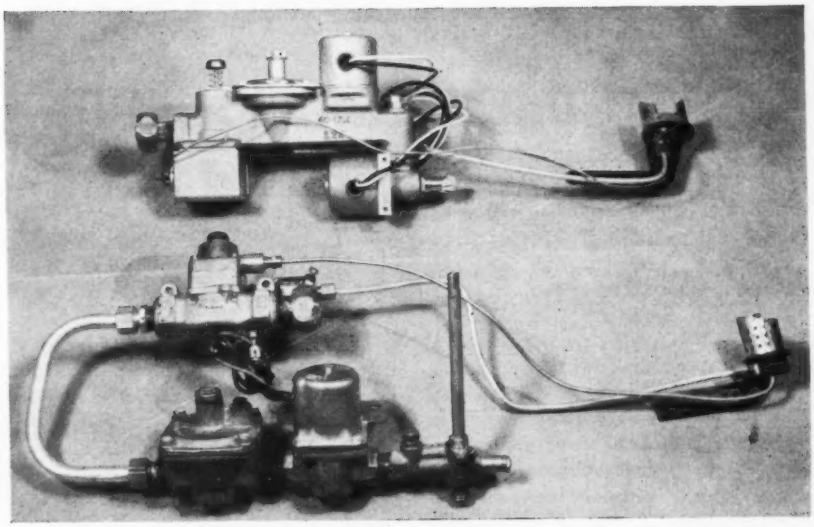
Of special significance is the application of a new sprinkler. This sprinkler has no device to be placed in, or removed from, the inside of the dryer, and nothing to be taken out and filled. All the user need do in respect to sprinkling is to pour a cup or two of water into a fixed container recessed in the top panel of the dryer. This is sufficient to provide the degree of dampness needed for best ironing conditions. When sprinkling is completed, the wash itself and nothing else has to be removed. The water container remains in the position where it is originally installed at the plant.

In this new design, the sprinkling nozzle is located in the cylinder axis and just forward of the back wall of the cylinder. There, the sprinkler does not rotate and does not interfere in any way with the tumbling or drying action. A small chrome plated brass tube, brazed to support the nozzle, passes back through the hollow cylinder shaft to a point where a flexible rubber tube of small diameter is clamped to the end of the brass tube. From this point, the rubber tube loops upward and is attached to a nipple cast integrally with the bottom of the die-case zinc alloy container. Only the chrome plated flange



Sprinkler system for new Norge dryer. Container is suspended through pierced opening in cabinet top and supported by flange.

improved gas valve assembly has fewer joints . . . re-styling improves cabinet and back guard appearance



of the container is above the top panel. Above the flange is a similarly cast and plated hinged cover. A filter screen is placed in the container outlet before installation.

When sprinkling is done, the cylinder is rotating. The container cover is raised and enough water poured in to moisten the dryer load. This water, passing through the rubber hose and small tube, sprays out through tiny holes in the nylon nozzle onto the tumbling contents. This tumbling ensures uniform moistening. No heating is done during tumbling.

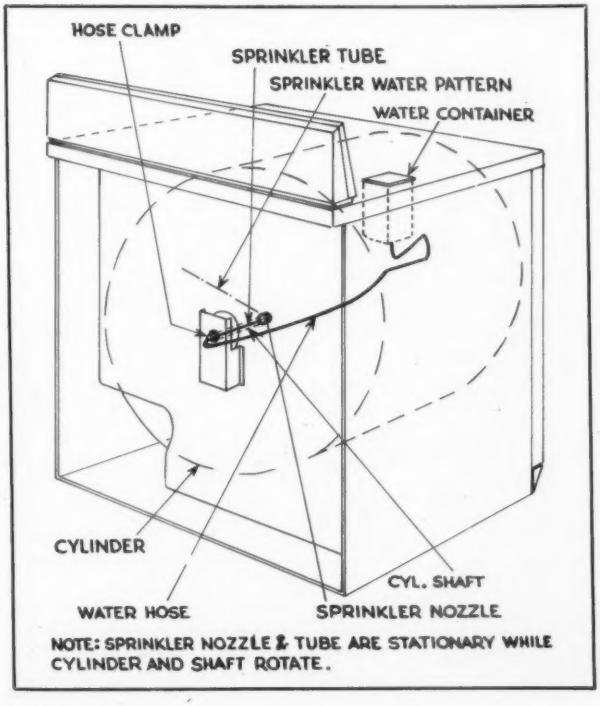
To hold the nozzle in place, it is provided with rear openings that fit notches cut in the flange on the front end of the small tube. On the inner face of the nozzle is a rubber ring that is slightly compressed when the nozzle is pressed backward and turned a few degrees. Turned, ears of the flange disc enter arc-shaped slots in the nylon nozzle and keep it from coming off. It is locked by friction of the rubber ring, but can be removed by a reverse turn if the small nozzle holes ever should become clogged.

There is no contact between the brass tube and the hollow shaft. The tube rests in nylon bushings at each end but does not turn with them, as they are free-fitting inside and are tight in the recesses at the end of the shaft, which is supported and turns in porous bronze bushings. The supporting plate for the rear shaft bearing includes a light bracket that contacts the hose clamps for the lower end of the rubber tube, and this bracket keeps the brass and rubber tube from turning.

Solenoid controlled gas assembly

All Norge dryers that are gas heated have a set of three valves below a hinged cover in the top. The first of these is an automatic gas shutoff that prevents any gas flow if the pilot light should go out (an important safety feature); the second is a pressure regulator; and the third a solenoid shutoff. On the previous models, these valves, purchased separately, were assembled by Norge. This required ten separate screw-type joints, each of which had to be made gas tight. This involved considerable assembly time, as well as separate nipples.

In the new design, the valves are combined in a single housing as purchased. To install the assembly, Norge need make only three joints in attaching it to gas lines and to the mercury pilot unit. This saves considerable labor and some extra parts. Ift the pilot light goes out, the main gas supply shuts off automatically, meeting necessary safety requirements.



(Above) — Solenoid-controlled valve assembly for new dryers (top) requires only three joints. Old assembly (below) required seven screw-type joints.

Drawing showing details of the new sprinkler that draws water from a small die-cast tank and delivers it through small holes in the nylon nozzle at the back of the cylinder by way of a brass tube inside the hollow cylinder shaft.

"Square look" design

On earlier models, it was necessary to turn the stem of one valve mechanically when gas and heat input had to be varied. This variation is now done by a solenoid. This control is automatic in response to manual setting of the dial switch on the back guard panel of some models. With the new setup, heat supply is more sensitive and steady, making the new control better for delicate fabrics that require close temperature control.

Besides the changes outlined, several have been made in restyling. Though intended to promote consumer interest, they also were made to bring the new models into conformity with the Norge washer changes, as dryers often are sold along with washers and are commonly placed as pairs in kitchens and home

to Page HL-44 →

Control simplification and larger capacity gained in new washer design

by V. C. Rice • VICE PRESIDENT OF MANUFACTURING AND ENGINEERING
NORGE DIV., BORG-WARNER CORP.

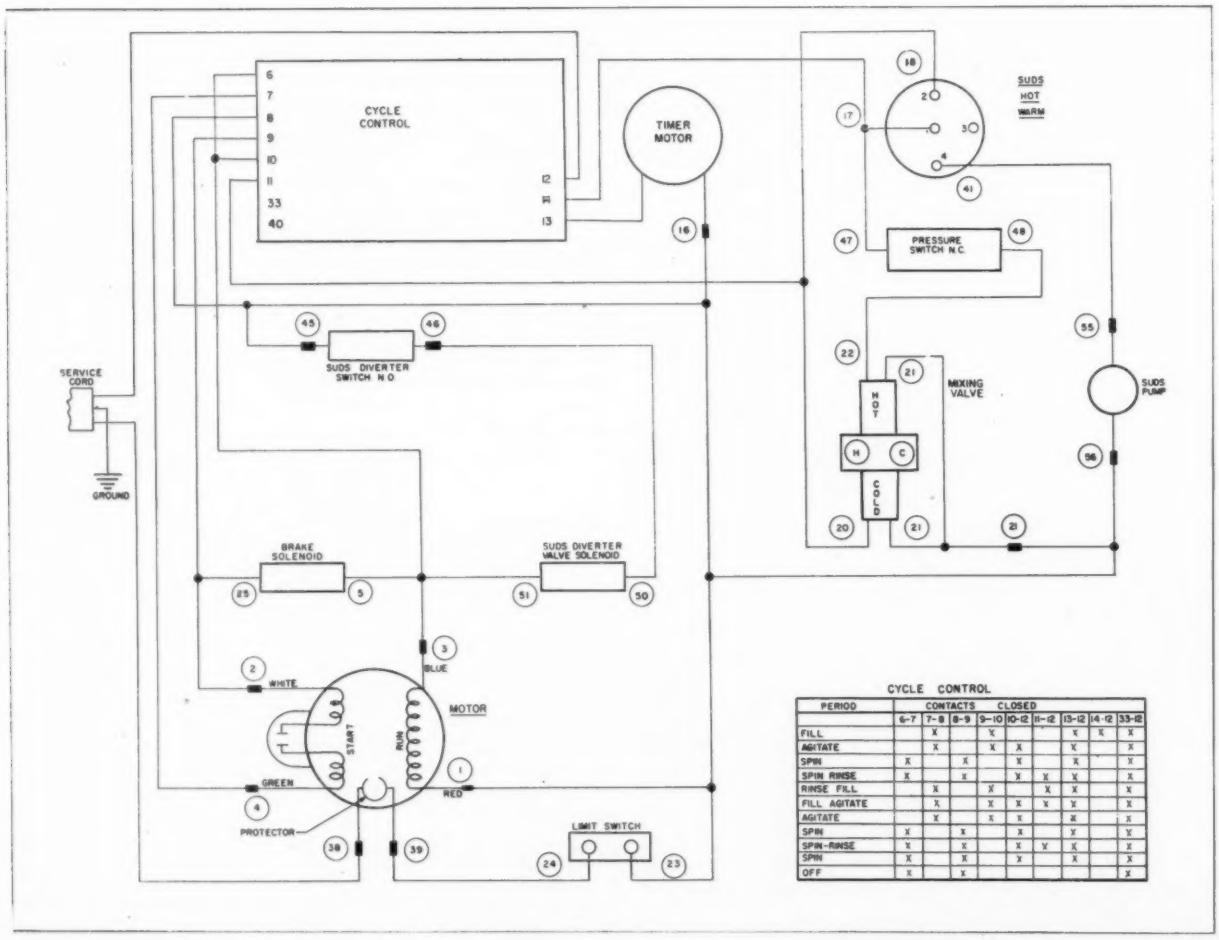
MPM EXCLUSIVE FEATURE

basket holds more wash, and has new reinforced balancing ring—cabinet has "square look" corners

NORGE AUTOMATIC agitator-type washers for 1960 have undergone marked improvements, not only in styling, but in numerous features of construction. Driving mechanisms, which are the same for all six models in the line, however, remain substantially unchanged. This is because the mechanism, already highly developed and in use in over a million machines, has proved itself thoroughly reliable and performs its functions extremely well.

Some major changes have been made in the basket. It is larger in diameter, holds an extra gallon of water and a ten-pound load as against nine pounds formerly, and includes a new upper stamping that contains an entirely new balancing weight made of new material and in a new way. To accommodate the new basket, and to insure ample clearance between its upper portion and the sump tub, the latter is given an outward bulge near the top.

These changes, however, do not require a larger outer cabinet, hence the washers occupy the same floor space as the previous models. In other words, overall dimensions remain unchanged.



CYCLE CONTROL

PERIOD	CONTACTS CLOSED							
	6-7	7-8	8-9	9-10	10-12	11-12	13-12	14-12	33-12
FILL		X		X			X	X	X
AGITATE		X		X	X		X		X
SPIN	X		X		X		X		X
SPIN RINSE	X		X		X	X	X		X
RINSE FILL		X		X		X	X		X
FILL AGITATE		X		X	X	X	X		X
AGITATE		X		X	X		X		X
SPIN	X		X		X		X		X
SPIN-RINSE	X		X		X	X	X		X
SPIN	X		X		X		X		X
OFF	X		X						X

A closeup of the Model AW-562 fabric guide which indicates the proper setting for eight types of laundry loads.

Radii changes resulting in the "square look" make the washer cabinet a better "match" with other appliances.

Other major changes are largely in controls, and in the back guards enclosing the controls. In the four models between those lowest and highest in the price scale, the back panels are supported on two die-cast pedestals about 1 inch high. They separate the back guard from the top and give it a "floating" appearance. Wires to the drive motor and switches inside the cabinet pass through the hollow pedestals.

Control panel details

Control panels proper and control knobs are new and most attractively designed. Colors are beige and complimentary colors, all of which contribute to fine appearance and are important in the new styling. In the lowest price model, (AW-161), a die-cast escutcheon plate is mounted directly to the top panel surface. The single-cycle rotary timer is mounted below the top panel, the timer shaft extending through the escutcheon plate for dial attachment.

In the Dispensomat model, tubing extends through the top panel into the back guard to provide water at the bins for dispensing the laundering aids and detergents. Thus, this newly-styled back guard is mounted directly to the top panel rather than on the pedestals used on other models of the line. A full-width fluorescent light illuminates the top panel surface and a plastic "fabric guide" in the back guard. This guide is an instruction to the user in the selection of the proper control settings.

As for many other washers, those who install or move the machines in servicing are almost sure to grab the back guards and apply heavy twisting forces. These forces are transmitted through pedestals, when they are used, and tend to distort the paneling, especially if the cabinet top and sides are flexed. Such distortion tends to cause chipping of the porcelain enamel. Accordingly, Norge has welded in, below the top and inside the cabinet, new braces that increase stiffness greatly, with the result that chipping of finish is avoided.

Heretofore, water inlet flumes have been located in back guards and required that tubing extend into the back guards and from it to the basket inside the cabinet. Such an arrangement is not feasible when back guards are pedestal mounted. Accordingly, in all models except the Dispensomat, a completely new design of flume is used. It is mounted inside the cabinet, its flange being bolted to the waste tub in a recess made for this purpose.

Normally, entering water from hot and cold lines discharges, after passing the required air gap, directly from the flume into the basket. If water pressure is exceptionally low, however, the water flows more slowly from a second outlet of the flume into the upper ring of the basket. From there, flow is via holes in the neck of this ring into the basket. This permits filling even under water pressure conditions so adverse that some machines would not function at all. The flume is a chrome plated zinc die casting. A brass plate, fastened to a flange,

(Left) — Diagram shows the wiring for the Norge washer, and indicates in a table the contacts that are closed during each event in the cycle.

Model AW-562 of the Norge line automatically adds the desired amounts of detergent, water conditioner, fabric softener, and bleaches at the correct time during the cycle. It has one switch to control all speeds, wash and rinse temperatures, and has a 10-pound clothes capacity, and a guarantee against rust.

New type automatic washer baskets are dropped into washers on the production line. They contain entirely new balancing weights made of concrete encased in steel.

is brazed to an inlet tube that, in turn, is attached to a rubber hose connected to a water inlet valve. Each flume also has a connection that is fitted with a hose extending to a pump when a suds saver is provided as optional extra equipment.

Simplified controls

Design changes thus far mentioned are the major ones on current new models, but many details are needed for a comprehensive picture and for a better understanding of the reasons for the changes.

In the new design of the Dispensomat model, there is one knob that can be set in any of eight positions to cover speed (of agitator) and the temperatures for both wash and rinse. All possible combinations of these are thus controlled. A second knob is set to control the time of each event in the cycle chosen.

Some models have a time line timer and some a rotary timer. Several models have a tabular diagram fired into the porcelain enamel in the underside of the top cover to further aid the user.

In all cases, the user can choose the cycle best suited for the type of fabrics being washed. Once the selection is made, however, the cycle proceeds automatically to completion unless the user chooses to stop it by use of the "Off-On" switch built into the cycle control timer. A cycle especially suited for wash-and-wear items (constantly becoming of greater importance) is easily set. Washing and rinsing water temperatures can be set to produce optimum results, and the cooldown of the wash water before the machine advances to the spin avoids deep-set wrinkles in the wash-and-wear fabrics.

For the top priced model, it is possible to introduce soap powder, detergent, softener and bleach, or any one or more of these, automatically at the part of the cycle chosen. This is accomplished by the same Dispensomat used by Norge last year. Another and optional dispenser "wheel" is available to fit above the agitator on several models and can automatically condition rinse water at the proper time.

New balancing ring

A basket 1¼ inch larger in diameter that has, as its top member, an annular channel stamping into which concrete is cast for the balance ring, is used in the new line. The substitution of the new design made possible the diameter increase. The ring of concrete, including a ring of wire to form a strengthening central core, weighs 11 lb. as against 10 lb. for steel.

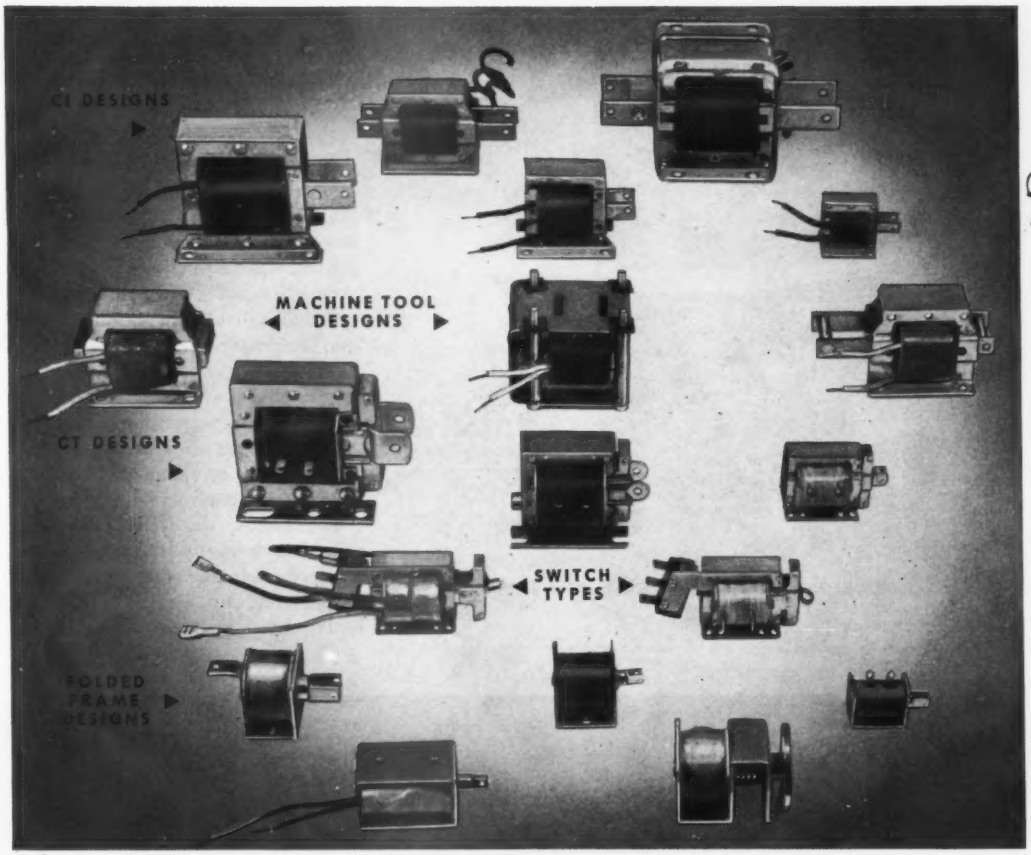
A special setup for casting the concrete, using a heavy aggregate, and for insuring balanced distribution, is employed. A quick setting agent is used in the mix, and the concrete hardens so quickly that spinning in a short time after casting is possible. In setting, the concrete bonds to the porcelain enamel surface but also is held in by a lip of the channeled top that makes a mechanical interlock, hence there is no chance of a faulty cast breaking and flying out when spun.

When the basket ring is produced, the outer wall of the channel is indented so as to form a series of recesses resembling flattened corrugations. Outermost faces of the corrugations are shaped to fit a cylinder whose radius is equal to that of the basket id, to which the faces fit tightly when the ring is pressed into the basket. A spot weld is made at the center of each mating surface, so that the ring is positively fastened to the basket at points about 2 inches apart around the whole diameter. A recess is left between the two parts, however, at each point where the metal has been formed inwardly. Water extracted in spinning is forced upward and overflows through these recessed

to Page HL-36 →

Norge 1960 automatics reach the end of the assembly line at the Herrin, Ill. plant.

Solenoids for *every* application

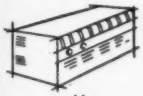



Washing Machines


Machine Tools


Industrial Controls


Vending Machines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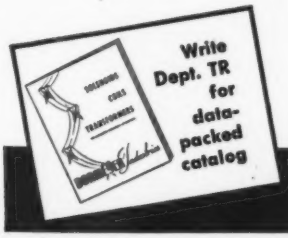

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Control station beside an elevated runway from which the operator can see and control the entire automated line.

Automated line produces 12

Four-wall housings for Philco washers and without die change. Controls operate aut

Because both basic cabinets are the same size, and are made from the same blank that is formed initially in the same way, total volume requirements are high and justify a well-automated production line. This includes a large hydraulic blanking press, a combination tangent bender and seam welder, an expander, and a row of supplementary special presses that do piercing and some secondary forming.

All of these units are so fully automated that no manual handling is needed. Although used for cabinets of both designs, some dies are made so that they work on one type of cabinet and some on the other type. Dies that operate for only one design of cabinet remain idle when the other design is run.

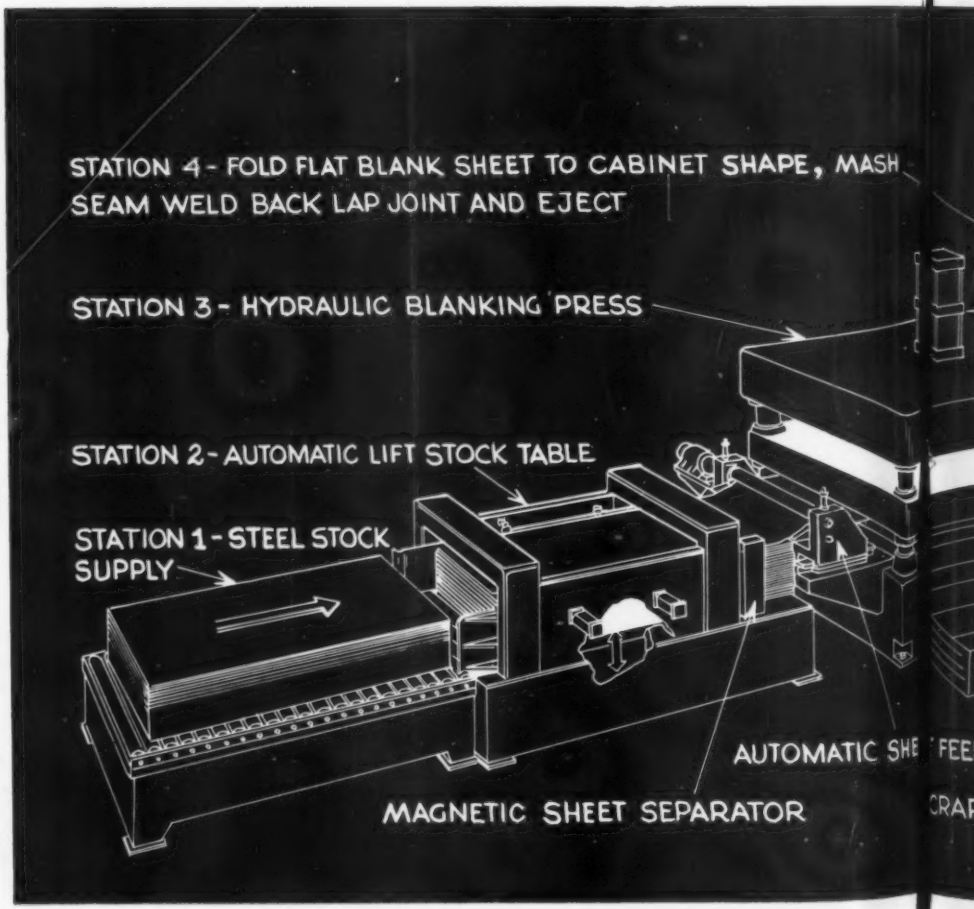
MPM EXCLUSIVE FEATURE

Philco Corporation's line of washing machines, including its Duomatic combination washer-dryer, are among the Philco appliances produced under contract at Nashville, Tenn. Included in the line is the Automagic washer that employs a special form of agitator, turning about a vertical axis and producing high frequency washing action. This machine is top loading.

Also produced is a combination unit having a fixed cylinder set with its axis horizontal. Inside this cylinder is a rotating coaxial perforated basket in which washing and subsequent drying take place. This machine has a circular front door that serves for loading and unloading.

Cabinet sizes standardized

Both machines are designed to use the same basic rectangular four-walled cabinet. It is 34 inches high, 26¾ inches wide and 26¼ inches deep (front to back), but openings in the front and rear faces are not the same because of the different operation and internal design. There is, of course, no circular front door in the unit designed for vertical agitator washing, and rear openings of the two cabinets differ to suit their respective functions.



125 washer cabinets per hour

by H. W. Schulze •

MANAGER, LAUNDRY OPERATIONS,
PHILCO CORP.

and washer-dryer combinations are produced alternately automatically to determine which dies are to function.

Once the total setup has been made, it remains unchanged except for alteration in controls. They make possible a production shift from one form of cabinet to the other, with almost no delay, because all die components remain in place.

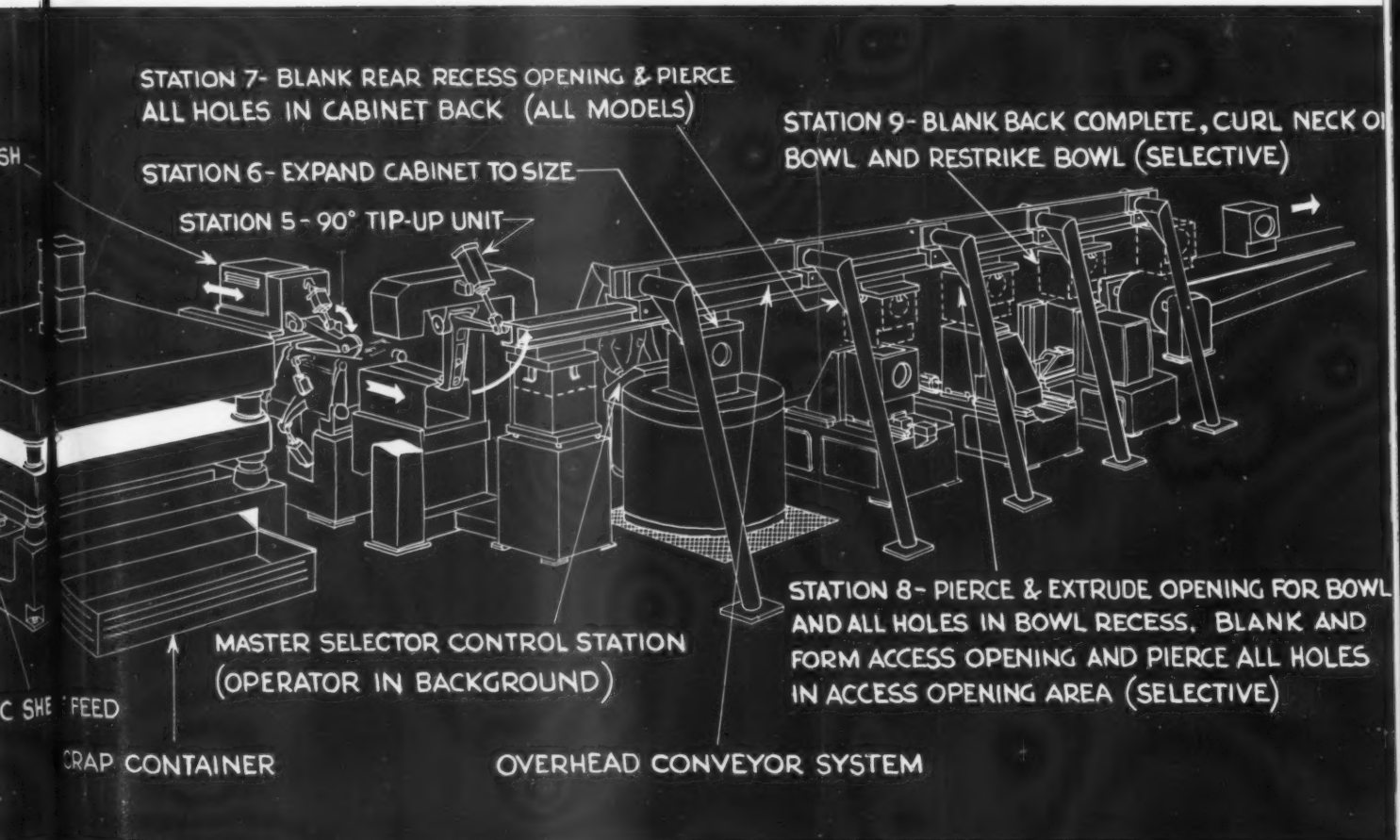
A given run may continue for an hour or two, or as long as may be needed, on one type of cabinet. Then a shift to the other type is effected in a matter of seconds by the push of a single control button. In fact, the changeover of the automated setup is effected more quickly than are changes on assembly lines to which the cabinets are delivered. It required considerable ingenuity to design an automated setup so easily converted from type to type, but the result makes it possible to amortize the cost of the complete line over a far larger total production, thereby lowering considerably the tooling charge per cabinet.

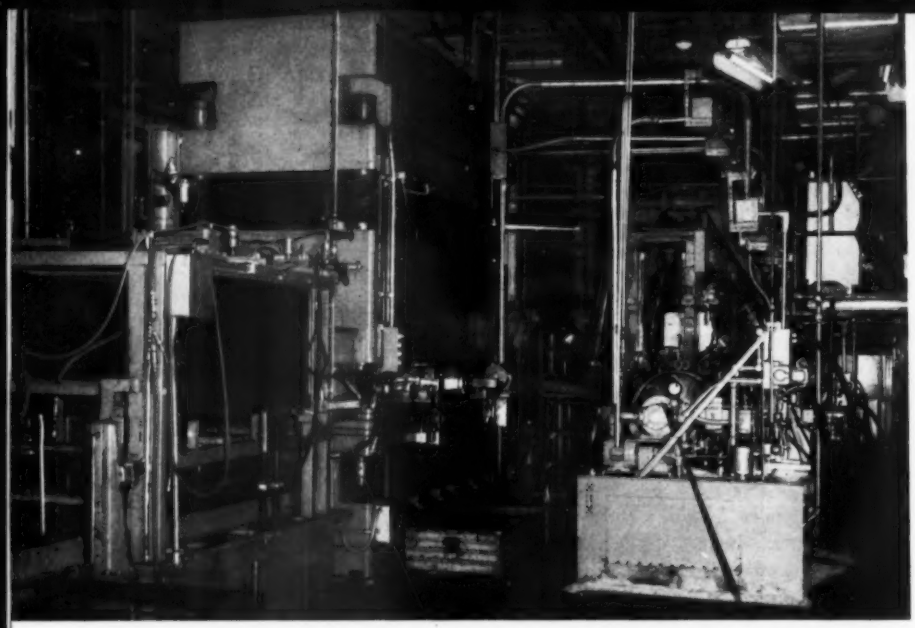
Blanks of cold rolled steel used for each cabinet measure 36 by 101⅛ inches and are 0.048 inches thick. They are cut to size from coil stock, and are delivered to the start of the automated line in stacks that are spotted on a roller conveyor for easy shifting to the first press feeder. This press is a hydraulic type that trims and notches both long edges and also pierces some small holes. Scrap cut away drops into boxes at each side of the press.

A vacuum cup device lifts sheets from the stack. At the end of this station is a magnetic unit that causes sheets to fan out so that only one at a time can enter the roll feed unit next to the stack. Advance into the press is by rollers that cease to turn the instant a blank strikes stops that fix its longitudinal position. As soon as this occurs, the press trips automatically and makes its working and return strokes. As the trimmed blank is released, it is fed longitudinally by rolls and is advanced to forming position in a tangent binder. At this point, the bender closes, making short radius bends at the four corners and producing a short overlap for seam welding.

As soon as forming is completed, a mash seam welder, which is part of the bender assembly, advances the welding

TECHNICAL DETAILS FOR THIS MPM DRAWING OF THE AUTOMATED LINE COURTESY OF WALLACE EXPANDING MACHINES, INC.





Sheets are lifted one at a time by the vacuum pick up (left) and then are advanced longitudinally by the roller feed into the press shown in center of photograph.

rolls to produce the seam weld near the center of the back face, reducing the seam almost to single-stock thickness. The bender components open, releasing the rectangular cabinet which then is tilted up and slides down a ramp into the pickup for the expander. Pickup is done by a carrier on an overhead track.

Expanders used effectively

As in other similar setups, the expander is designed to stretch the walls of the cabinet and, in this case, to produce the specified oblong section as well as to hold it within close dimensions. Stretching is accomplished by four die sections that are forced outward, each moving at right angles to the face it forms. At the proper point, four external dies are moved inward. They mate with the inner dies and, together with them, do whatever forming is required on the four faces. The dies also form top flanges inwardly. Notches made in the first press are large enough so that spaces are left between the ends of the flanges.

After the four-sided cabinet comes from the tangent bender, the cabinet is advanced onto an elevator that is part of the expander. This elevator then lowers and positions the cabinet for the expanding operation. When the expanding and face forming are completed, and all die components retract, the elevator moves the cabinet upward automatically until it clears the expander and is gripped by a carrier on an overhead track. The formed cabinet is then shifted transversely and is lowered and released at the next station. Then the carrier shuttles back, ready to pick up the next cabinet lifted from the expander.

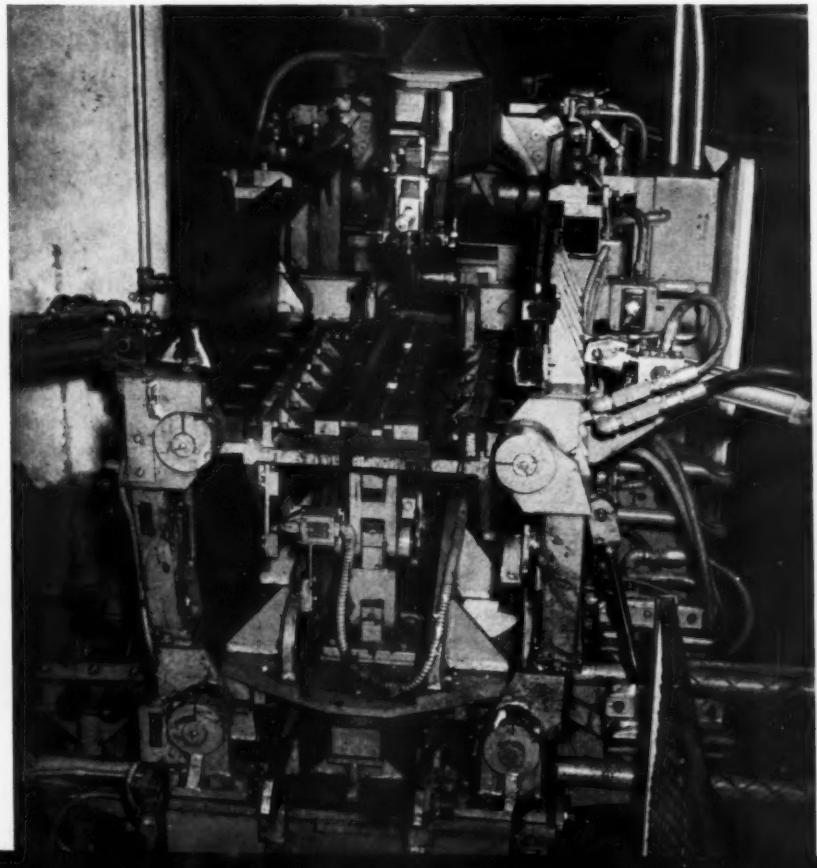
In the expander, the dies perform certain operations on two or more faces that are needed on the particular model of cabinet being produced. Some dies have portions that are moved for one type of cabinet but remain idle for the other type. In the type that is to have a circular opening for a front loading door, one outer die has a punch that pierces the door hole and embosses around the opening, and the mating die has an impression into which the metal is recessed. In the cabinet needing no circular front opening or throat, the throat punch is not advanced and the face remains flat.

Dies are so made and so controlled by the sequence timer that they perform only those operations for which corresponding controls are set, and components function only when needed. Some forming is done on the back face as needed, and dies also produce side steps, when set to do so. By reason of flexible design, one machine does quite different jobs with only resetting of controls before shifting from one cabinet style to the other.

Then comes the first of three special presses equipped with dies that move horizontally. Overhead carriers shuttle back and forth to elevate, transfer, and lower each cabinet into this and each subsequent station. At the first of these stations, dies blank a rear recess opening and pierce all holes in the cabinet back. These include holes for fasteners that support the detachable back panels and other back components. These operations are performed on both models. Movable die components in this and subsequent stations are operated by hydraulically-operated cams.

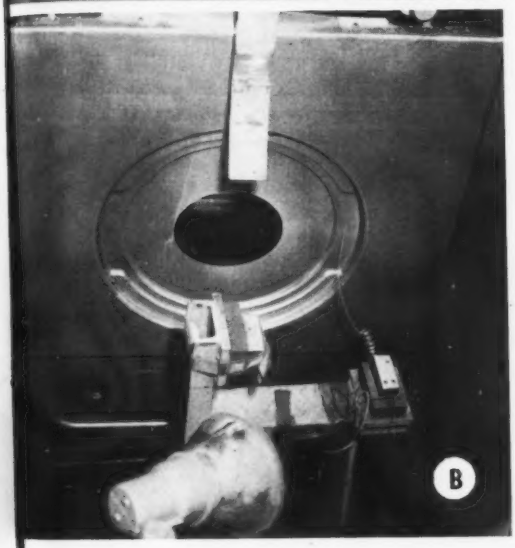
Dies in the next station operate selectively and are used only on the cabinet for the combination unit. They pierce and extrude the door opening and all

Tangent bender forms blank received from the press. When the two ends are overlapped, welder wheels advance for a mash seam through center of back panel.



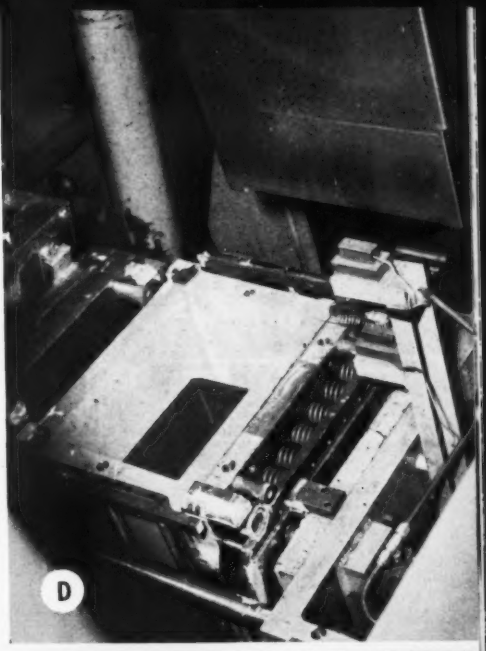
A

Top view of the expander with dies open to receive the formed cabinet that is lowered by a carrier which is transported on an overhead track.



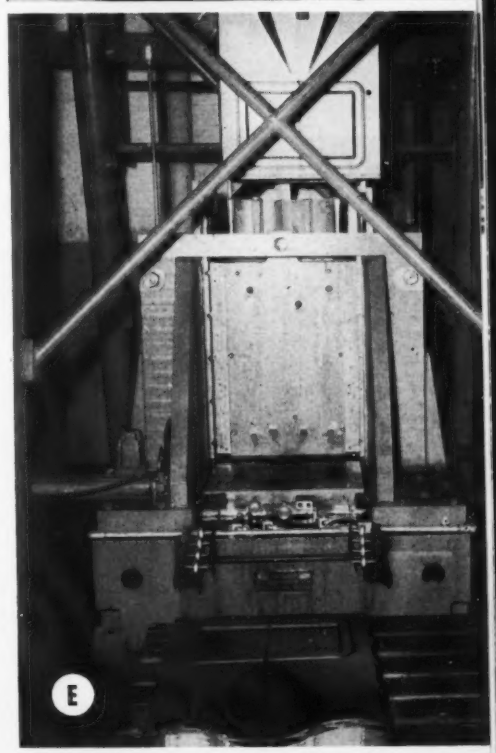
B

Cabinet as it appears after elevating from the expander which has flanged the top and done some forming on vertical walls. This is station eight.



C

Cabinet being elevated after dies in station eight where extrusion has been performed on the "bowl" and the lower opening, and several small holes have been pierced in dies shown.

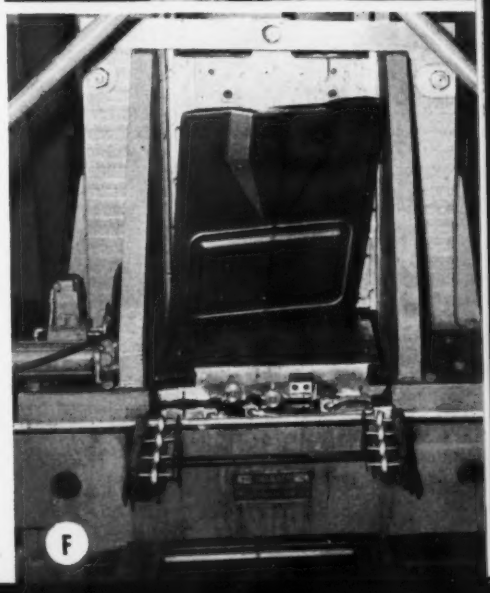


D

Dies in the press at station eight into which the cabinet, shown above and at right, is about to be loaded.

E

Final station, number nine, in the automated line, with cabinet above about to be lowered. The die shown blanks out the back which drops onto the stack visible on the pallet in the foreground.

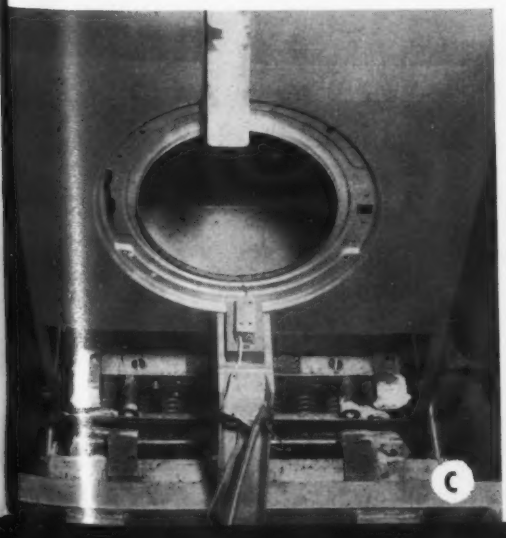


F

Blanked-out back about to drop onto rolls along which the back is advanced by gravity onto the stack on the pallet.

holes in the bowl (or door) recess area. In the same die, the lower access opening is blanked out, and the small holes at the ends of this opening are pierced. These operations are not performed on the cabinet for the vertical (Automagic) washer.

At the final station in the automated line, dies are designed to blank out substantially the whole back, which has been formed in prior operations, so that it can be employed for other purposes.



C

Another die in the same press curls the neck at the bowl (door opening) and restrikes the bowl to set it to final shape.

Normally, only one man is required to attend the entire line, and he can observe the performance of each unit in the entire automated line. A button control panel is provided near one end of the runway and it can be used, if trouble arises, to stop the whole line, and also to permit manual button control of any unit in the line.

Each unit in the line is equipped with interlocks so arranged that no station will be fed with a sheet or partly formed cabinet until the next station is empty and ready to receive another part. These interlocks are for safety and are designed to prevent jamming during transfer operations.

Overall space required for the automated line is comparatively small, the total length being approximately 74 feet. It is possible to produce 125 cabinets an hour, which is a remarkably large output considering that, normally, only one man is needed on the line. Stacks of blanks are fed to the beginning of the line by a fork truck, and completed cabinets feed onto a conveyor at the end of the line for transfer to the finishing department.

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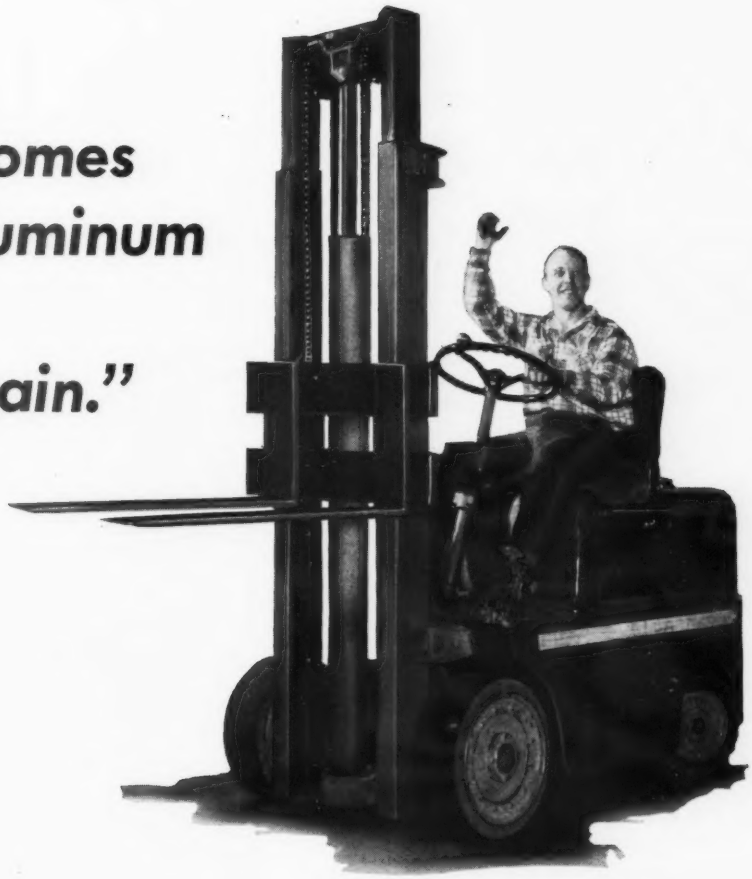

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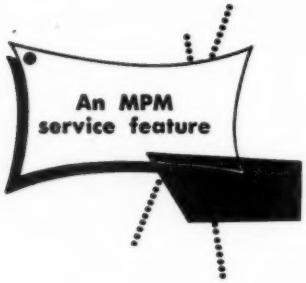


RCA Whirlpool combination washer-dryer set in a Mrs. America gas kitchen, some of which is shown here.

Hotpoint "Touch Command" washer-dryer combination features new dual dispenser which automatically adds the right amount and concentration of bleach to the wash cycle, and also adds the right amount of softener to the final rinse. Also incorporated in the model is a full-time underwater lint filter, a detergent dispenser, and six buttons for complete programming. The dryer has a clothes minder cycle for regular fabrics, a wash-and-wear cycle providing proper time and temperature, and a Select-O-Time cycle for special items and damp drying. Controlled climate chamber is said to assure a softer, fluffier wash. Tumbler drum is finished in porcelain enamel, as is the top and entire interior chassis.

Model 3A9 and 3M9 gas clothes dryer by Hamilton has exclusive twin air-stream drying, 130 minute rotary timer with automatic wrinkle-free period, Fabri-Dial rotary temperature selection, double-pass lint control, and Sun-E-Day lamp.

t home laundry appliances

home laundry appliance showcase

plus entries in the fourth annual

MPM photo contest for selection of

Mrs. Home Laundry Queen of 1960

Washers and dryers by Frigidaire are said to launder anything from delicate, filmy lingerie to heavy work clothes automatically. A wash-and-wear cycle is a convenience feature that has been incorporated into all of the washer and dryer models, and the washers feature an automatic wash-and-soak cycle for heavily-soiled clothes. Featured also is a three-ring agitator that pumps up and down, eliminating blades that might tangle or stretch clothes. In the top line dryers, clothes may be dried two ways. When set for "automatic," the moisture content of the clothes automatically regulates the drying time; for "timed" drying, the machine can be set for periods ranging from 15 to 75 minutes.

Maytag combination washer-dryer is styled to fit into kitchen, utility room, or bedroom-bathroom area decor. The unit is only 34 inches wide, no venting is required, and moisture removed from clothes in drying phase is condensed and pumped down floor drain to keep humidity, lint, and heat out of living area. Cabinet is of corrosion-proof zinc coated steel.

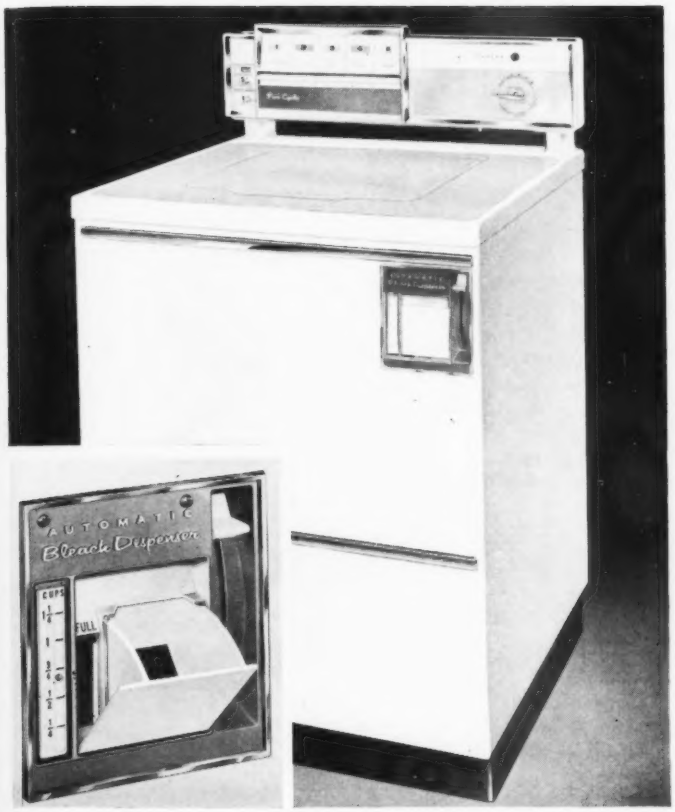
The L-1000 Laundromat and D-1000 clothes dryer by Westinghouse are available in wood finishes made of embossed furniture-like steel, in white, and in the Westinghouse confection colors of pink, yellow, and aqua. Eleven pre-set wash programs on the washer computer system include special washing conditions for pre-wash, colorfast cottons and linens, heavy soil, normal soil, and programs for wash-and-wear clothing. Dryer has eight pre-set programs for regular and fine fabrics, wash-and-wear, damp dry, blankets, wrinkle removing, low heat drying, and air fluffing.

Fabric guide on new Kelvinator washers and dryers tells homemaker which of six automatic washing cycles to select for variety of laundry loads, including woolens. Features include: deep turbulent washing action; automatic pre-scrubbing; automatic lint filtering; deep turbulent rinsing; and belt-driven washing action.

Speed Queen washers and dryers for 1960. The automatic washer features automatic injection of bleach and rinse conditioners, push-button timer dial, and flexible programming for wash cycles. Dryer has speed-dry cycle for normal loads, time cycle for heavy loads, pushbutton heat programming, magnetic door closer, in-a-door lint trap, and stainless steel drum.

The Blackstone WAA-60 automatic washer features three washing cycles: regular, delicate, and wash-and-wear. Through manipulation of push-buttons, the homemaker can control the temperature of wash and rinse water, and wash, rinse, and spin speeds. The drive mechanism has only five moving parts, with case hardened steel gears.

Armstrong Model 5910 portable electric ironer requires only ten inches of cabinet space, and may be installed in any custom or standard kitchen or utility cabinet in home, apartment, or mobile home. Switch is elbow-operated to free both hands, and drive mechanism is fully enclosed in the roll to save space.



(Above) — General Electric Filter-Flo washer has five automatic cycles and automatic bleach dispenser. Washer cover, lid, washbasket, and tub are finished in porcelain enamel.

(Above right) — The Custom Duomatic washer-dryer by Philco washes and dries a full eight pound load. Compact in size, it can be fitted into closet areas, sewing rooms, game rooms, and other places when such is more convenient than kitchens, utility rooms, or basements.

(Right) — Electric ironers by Ironrite, Inc. in service in a coin-operated laundry. Customers may do their ironing by day or night.

Companies reach production milestones

Hamilton Makes Millionth Dryer

E. P. Hamilton, president of Hamilton Mfg. Co., Two Rivers, Wis., has announced that the company produced its one millionth automatic clothes dryer on Monday, August 10. The Hamilton company brought out the clothes dryer in 1938 and for a number of years was the exclusive manufacturer.

J. Ross Moore, inventor of the dryer, tightened the last nut and bolt on the one millionth dryer as a highlight of the factory observance. The one millionth was a deluxe gas model. W. A. Friedrich, Hamilton vice president-sales, was moderator of the ceremony.

Hamilton manufactured its one millionth dryer nearly a month ahead of early production schedules, a company spokesman announced. Nationally, the dryer industry is running 31 per cent ahead of last year and Hamilton's sales gains substantially exceed the industry's.

The millionth dryer celebration was climaxed Friday, August 21, the opening night of the Wisconsin State Fair in Milwaukee, which had been designated as "Hamilton Night." J. Ross Moore and E. P. Hamilton were awarded a special commemorative plaque in recognition of the company's manufacturing milestone and its contribution to the state's economic well-being.

Inventor J. Ross Moore (seated) fastens the last connection on the one-millionth Hamilton automatic dryer at the company's Two Rivers, Wis. plant. President E. P. Hamilton watches the final operation.

Maytag Produces 12-Millionth Home Laundry Appliance

On August 4th The Maytag Co., Newton, Iowa, celebrated the production of its 12-millionth home laundry appliance. The celebration included a plant tour, luncheon, and a brief ceremony at the end of the assembly line in Plant 2.

Guest speaker at the program was Edgar B. Storey, director of the Iowa Development commission. He lauded Maytag's latest production record and outlined the state's surge in industry.

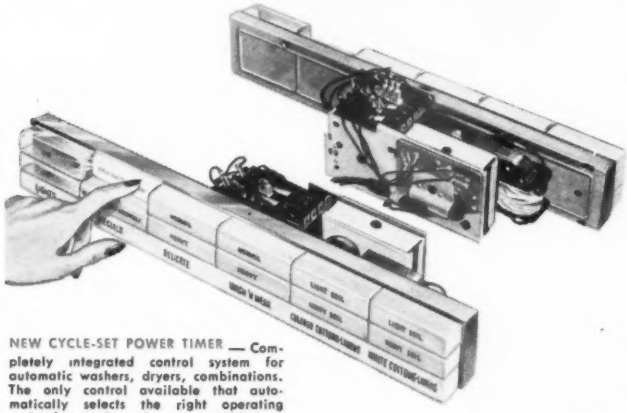
G. M. Umbreit, Maytag's executive vice-president and treasurer, spoke at the luncheon program following manufacture of the historic appliance — a deluxe electric clothes dryer. Umbreit stated, "While 12 million is still a lot of most anything, even with today's inflation, let's see if we can place it in some sort of perspective, so it becomes more than just another number. It is the equivalent of an appliance in nearly one out of every four homes in the nation. And they have all come from Newton, Iowa. Although exact statistics are unavailable, I am certain that well over half of those appliances are still in regular use in homes throughout America. In thinking about it, I wonder if perhaps that isn't the greater achievement. Because we know we are not merely producing appliances, but are really producing homemaker satisfaction, we derive a great deal of pride from the knowledge that the product of our efforts can be expected to perform well for a long time. We believe this satisfaction is shared by the millions of Maytag owners. This should not be mistaken for complacency, however, because it remains one of our primary goals to further increase the service life of our products."

He went on to say, "Of the dozen million Maytags that have been made since we began the manufacture of laundry appliances in 1907, it took us 42 years to reach the half-way mark. We produced our six-millionth Maytag in late 1949 and now, less than 10 years later, we have doubled that figure. Coincidentally, our sales for the first half of 1959, which you will recall were highest in company history for a half-year, were greater than sales during the entire year of 1949. Our first-half sales this year were more than double the highest sales of any full year during the Roaring Twenties, the period when Maytag rose from obscurity to world leadership in the home laundry industry. Maytag's sales last year, while not a record, equalled the total of sales during the first 20 years we were in the appliance business. While pressing unrelentingly for new records and continued growth, I believe it does no harm to look backward occasionally to see how far we've come. The year 1949 was a milestone for Maytag for yet another reason. It was the year we introduced our first automatic washer and opened Plant 2, where we also began manufacturing dryers four years later. It is symbolic to me that the site of the modern factory, where the 12-millionth Maytag was produced this morning, was a cornfield just 10 years ago."

Symbolic of Iowa's three "bumper crops" — corn, hogs, and industrial capacity—this photo shows Jean Caylor of rural Newton, a Future Farmer sweetheart, participating in The Maytag Company's observance of the production of its 12-millionth home laundry appliance. Maytag, which entered the appliance field in 1907, has produced half of its 12-million products in the last decade.

Every appliance made today can be controlled just a little bit better with...

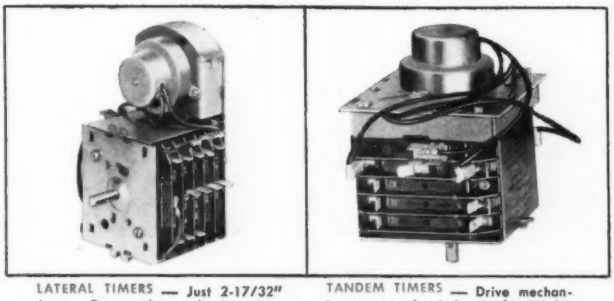
CONTROLS



NEW CYCLE-SET POWER TIMER — Completely integrated control system for automatic washers, dryers, combinations. The only control available that automatically selects the right operating cycle for each and every washing or drying situation.

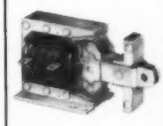
Individual components or completely integrated systems. Whichever you choose, you can be sure of this: Controls Company products are function-mated to the appliances they control. Field records show this results in extra value that helps sell the end-product . . . *and keep it sold!*

Shown here are some of the CC controls now helping to make many appliance lines just a little bit better than competition. Write for facts about these and other CC controls.



LATERAL TIMERS — Just 2-17/32" deep. For washers, dryers, combinations dishwashers, other automatic equipment.

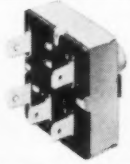
TANDEM TIMERS — Drive mechanism to rear of switch case for "tight-squeeze" installation in automatic equipment.



SOLENOIDS — Exclusive double T plunger means more pull for more applications. Four types, twelve models.

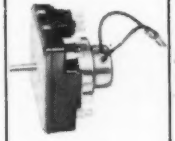
SNAPAC SWITCHES —750 Series (shown) for limit, safety inter-locking, door and control switch needs.

PRESSURE SWITCHES — Single and multi-level pressure. Designed to control liquid levels.

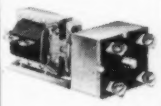


ROTARY SWITCHES — Compact 777 Series (shown) ideal for appliances, vending machines.

SYNCHRONOUS MOTORS — offer eleven speeds, three shaft types, two lube systems.



INTERVAL TIMERS —Type 105 (shown) for preset appliance time control.



SOLENOID OPERATED SWITCHES — Type 12270 makes, breaks two circuits simultaneously.

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MPM EXCLUSIVE FEATURE

Future of the Home L

CONNELL

SMITH
See Page HL-40

ERICKSEN

SAYRE
See Page HL-40

R. C. Connell

MERCHANDISE MANAGER, HOME LAUNDRY EQUIPMENT, PHILCO CORP.

Combo sales will pass separate automatics

THE SALES AND DOLLAR VOLUME strength of the home laundry industry is not only in its current high sales in single units of automatic laundry equipment, but to a very great extent this strength lies in the almost untapped potential of combination washer-dryer business. The industry's future is tied to both the gas and electric combination washer-dryers. There is much work to be done in promoting combinations.

In today's market, the combination faces the same type of early competition that automatic washers faced from wringer washers. Many salesmen could be pushing combination sales today and making substantial gains in such sales. These salesmen, however, appear content to close a quick sale only because the customer is "pre-sold" on a single piece of automatic laundry equipment. This picture will change. Manufacturers of combination washer-dryers have made major improvements in these machines. They are easy to service. They perform an ideal washing and drying operation. They can be purchased at list for a price less than many custom models of automatic washers. They fit in the same space as a single automatic washer. These facts, plus the increasing promotional effort on behalf of combination washer-dryers, will see such sales equal or exceed the sales volume of separate automatic washers and automatic dryers within the next decade.

Homer L. Travis

VICE PRESIDENT—SALES, KELVINATOR DIV., AMERICAN MOTORS CORP.

The short laundry line will help dealers

THE FUTURE of the home laundry appliance industry is obviously one of tremendous growth. But how fast, and how well, the industry grows depends upon how well it serves the consumer. The consumer is queen. The American homemaker must be pleased with the industry's new products.

Today's homemaker is a much different consumer than was her grandmother and even her mother. She expects time-and-labor-saving appliances, and she resents unusual service problems with her appliances. She wants basic user benefits without complicated controls or frequent and expensive service calls.

It is an opportunity for the industry to provide this more astute American homemaker with the kind of product she wants. At Kelvinator, we think we have achieved the product concept that will please her and make profitable sales for our dealers, our independent distributors, and ourselves.

Our primary purpose is to build home laundry appliances with basic consumer benefits through fundamental engineering improvements and integrity of design. Merely decorative and almost useless features do not fit into our product concept.

For our dealers, we believe the short laundry line is the best approach toward giving him the ability to sell profitably and competitively. In that way he can carry representative models without excessive inventory. To reach the consumer, we must first please the dealer.

T. D. Kennedy

SALES MANAGER, LAUNDRY PRODUCTS, FRIGIDAIRE DIV., GENERAL MOTORS CORP.

A bright spot in home laundry equipment

ONE OF THE BRIGHTEST SPOTS in the home laundry equipment picture today is that occupied by automatic clothes dryers. In fact, dryers offer one of the greatest growth potentials in the major appliance industry.

There even is cause for optimism in the sales pattern of recent years. Although the steady growth of electric dryer sales was interrupted about two years ago, the leveling off has been limited to the traditionally strong dryer markets of the northern part of the country. This reflects the temporary economic decline in the area and indicates a buildup of deferred dryer purchases.

During this same period, however, there has been an impressive increase of dryer acceptance in low saturation areas, such as the South, proving that dryers no longer are just a "weather item."

Gas dryer sales have also shown a continuous growth, now approaching half a million units annually.

Dryer saturation is still low—15 per cent compared with 39 per cent for automatic washers and 88 per cent for all washers. . . .

The spreading demand for dryers, coupled with the improved business climate and the backlog of postponed purchases, should give the industry a strong market for dryers in the months and years ahead.

ne Laundry Appliance Industry

ELY
See Page HL-40

TRAVIS

FOLSOM
See Page HL-40

KENNEDY

W. A. Friedrich

VICE PRESIDENT—SALES, HAMILTON MFG. CO.

Two pitfalls: overproduction and gadgetry

THIS IS AN OUTSTANDING YEAR for the home laundry equipment industry. While we are all enjoying the good business, I would like to voice a note of caution. Any time we have a good year the industry gets bullish. Everyone is tempted to overproduce. Each manufacturer knows there's a practical limit to sales increases, but he thinks he'll do better than the industry as a whole. So up goes his production.

When several companies overproduce, the market is quickly glutted. Prices are slashed, no one makes money, and sales are borrowed from the future.

One more pitfall — laundry equipment manufacturers make the mistake, I believe, of building their products for the trade — not for the housewife. This leads to phony obsolescence — the constant introduction of new features, new gadgetry, new gimmicks. The trade demands this, but in time it can boomerang both with the housewife and with the trade.

If we continue, we run the risk of supplying a product whose features are so plentiful, varied, and meaningless, the housewife may either refuse to buy automatic laundry equipment entirely or insist on the simple, uncluttered, low-end models.

So let's not kill off top-end sales by frightening the one person whose favor we need — the housewife.

L. O. Reese

PRESIDENT, ARMSTRONG PRODUCTS CORP.

The redheaded stepchild shows new life

THE REDHEADED STEPCHILD of the home laundry appliance family, the electric ironer, is turning a more golden hue.

A few years ago, beset by every possible overage . . . over-production, over-pricing, over-complication of the ironer, over-shadowing by the washer, dryer and combination sales . . . the ironer business went to "hell in a basket."

This year's ironer sales, however, are confirming a recovery trend begun last year. A great many of the overage troubles have been corrected.

Production has been reduced to two manufacturers, and prices on many models drastically reduced, with the housewife now able to purchase a cabinet model matching her other major appliances for less than $100.00. Many of the complicated automatic features have been eliminated, resulting in simpler, easier operation. No longer sold as a "wonder machine" which can iron a shirt by itself, the ironer is convincing women that the ironing chore can be completed more quickly and with much less work than with a hand iron. It is at last generally conceded that the laundering of practically all wash-and-wear fabrics is greatly improved by some ironing. . .

Finally, the clearest indicator of this change from red to gold could be the greatly increased interest and enthusiasm of home economists for ironers displayed at a recent AHLMA showing.

Parker H. Ericksen

VICE PRESIDENT & GENERAL MANAGER, EASY LAUNDRY APPLIANCES DIV., THE MURRAY CORP. OF AMERICA

An interesting present—a fabulous future

THE WORD "FUTURE" reminds us that the home laundry industry has been "mentally wrestling" with the birth, childhood, and adolescence of a new baby: the combination washer-dryer. There are mixed emotions about this "future product."

Some of us are reminded that there were mixed emotions toward the automatic washer not a great many years ago when the proponents of automatic washers were deftly wrestling with those who argued loudly in favor of conventional washers by stubbornly resisting the automatic washer because it reflected too much service trouble; used too much water; its design was too complicated; too few servicemen understood it. . . How alike are the arguments today against combination washer-dryers. . . .

At Easy Laundry Appliances, we think in a major way about the merchandising and the marketing of combinations — Easy Combomatics — and, as we constantly check and double check our research findings and our surveys, it is the comments of Combomatic owners that keep us convinced that, while ten dealers think the future of combinations is a long way off into the future, it is true that for each of those ten there are two, or possibly three, dealers who disagree and who are undertaking a spirited merchandising approach to this more automatic home laundry product . . . a product with an interesting present and a fabulous future.

More statements on next Page

FRIEDRICH

KENNA

REESE

Richard H. Smith

VICE PRESIDENT, BLACKSTONE CORP.

Opportunities never before anticipated

AS WE APPROACH THE FALL SEASON and look forward to 1960, we at Blackstone envision opportunities for laundry product sales never before anticipated. Certainly the continual expansion in our population and the increased interest in improved laundry products can be a guide for our entire industry. During the past year and a half we have invested heavily in machinery, equipment, and new laundry product lines to meet this need and challenge.

We have added features and conveniences to make our products more desirable, and we are currently expanding our engineering activities to hasten the development and availability of new and better washers and dryers for the future. We recognize the need for better quality and more serviceable and service-free products, and our efforts are being directed heavily in this area.

Our sales and distribution have shown outstanding progress so far this year, and we are anticipating further substantial gains in the fall of this year and throughout 1960. In fact, we are working to make this anticipation become a reality.

Judson S. Sayre

PRESIDENT, NORGE DIV., BORG-WARNER CORP.

Spur for the appliance industry

HOME LAUNDRY EQUIPMENT SALES in the last half will spur the appliance industry to levels near the 1956 record. Industry sales of washers and clothes dryers will top 2,600,000 units during the last six months.

Automatic washers alone will jump ahead of the strong 1958 second half and move 300,000 units ahead of the first 1959 half. In the second six months of 1959, washer unit sales will exceed that of the refrigerator, and clothes dryer sales will practically double. Across the board, home laundry will contribute a whopping 40 per cent to total industry sales of white goods.

Between September and December, the industry will see the biggest and most sustained concentration of washer and dryer advertising and merchandising in history. Nothing can stop this end-laundry-drudgery blitz directed at the American housewife.

We are determined not to lose the momentum that has been building over the past twelve months, and will create new wants, not merely supply existing demand.

Claire G. Ely

VICE PRESIDENT, MARKETING, THE MAYTAG CO.

A spirit of realism increasingly evident

THE FUTURE of the home laundry appliance industry looks particularly bright to me for many reasons. I believe I sense a spirit of realism increasingly evident in many areas of manufacturing and marketing, a growing recognition that it is a good business, and one which brings fundamental benefits to the consumer. It's a business which can develop tremendous customer satisfaction for the dealer who makes the sale. It is a stable business deserving careful thought and planning by manufacturer, dealer, and salesman. Today I am convinced more people in the business of home laundry appliances are aware of these truths and are operating with greater care and thoughtfulness.

E. D. Kenna

MERCHANDISE MANAGER, LAUNDRY EQUIPMENT DEPT., WESTINGHOUSE ELECTRIC CORP.

Simplicity versus flexibility

INCREASED PUBLIC ACCEPTANCE of Wash 'N Wear fabrics has created great complexity in the family wash load. Our industry must produce simple, rugged machines that have sufficient flexibility to handle all of these new fabrics and give them the specialized attention they need. At the same time, the systems controlling these machines must be kept simple enough so that the average housewife approaches their use with confidence. Simplicity of use, service-free operation, and flexibility of performance should be the goals that we all strive for in the future.

E. E. Folsom

GENERAL MANAGER—HOME LAUNDRY DEPT., HOTPOINT DIV., GENERAL ELECTRIC CO.

Ten year expectation is "startling"

CONSUMERS WILL BUY in the next ten years some 50 million washers and dryers whose retail value will exceed 15 billion dollars. This will be one of the biggest

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Norge washer

(Continued from Page HL-24)

passages, hence the basket needs no radial holes pierced through its outer walls.

Except for the shorter corner radii at front edges and extra stiffeners, outer cabinets have undergone little change. They are made from galvanized sheet for extra corrosion resistance and, as received from the mill, have undergone rolling after galvanizing to increase smoothness. Phosphating, of a type that is effective on zinc as well as on steel, is done before painting that includes an epon flow coat primer and an electrostatic spray finishing coat.

Servicing considered in back guard design

Back guards have been restyled not only to improve appearance but to adapt them to new control panels, and to permit ready access from front and back during assembly and in subsequent servicing. Design varies somewhat from model to model, but all lighted models can be relamped from the front by the householder. This feature has proven most acceptable in Norges' past experience.

Rear portions of back guards are steel stampings finished in the same way as cabinets. Control panels are of molded plastic, stamped aluminum, or die-cast zinc, or a combination of these materials. Finishing processes utilized are vacuum plating, silk screening, hot stamping, painting, and electrolytic plating. One model has a decorative plastic laminated panel inset to complete its aesthetic balance.

Except on the lowest price model, back guards include a fluorescent light tube supplying illumination through the panel so that the opaque markings stand out clearly. Colors in beige and brownish tones are carefully selected to make the whole effect attractive. Control knobs are in blending colors. The plastic control panels are molded without holes. Drilling is done to suit the switch adaptation needed, making panels adaptable to different models by change in drilling and finishing setups.

New permanent grease fittings

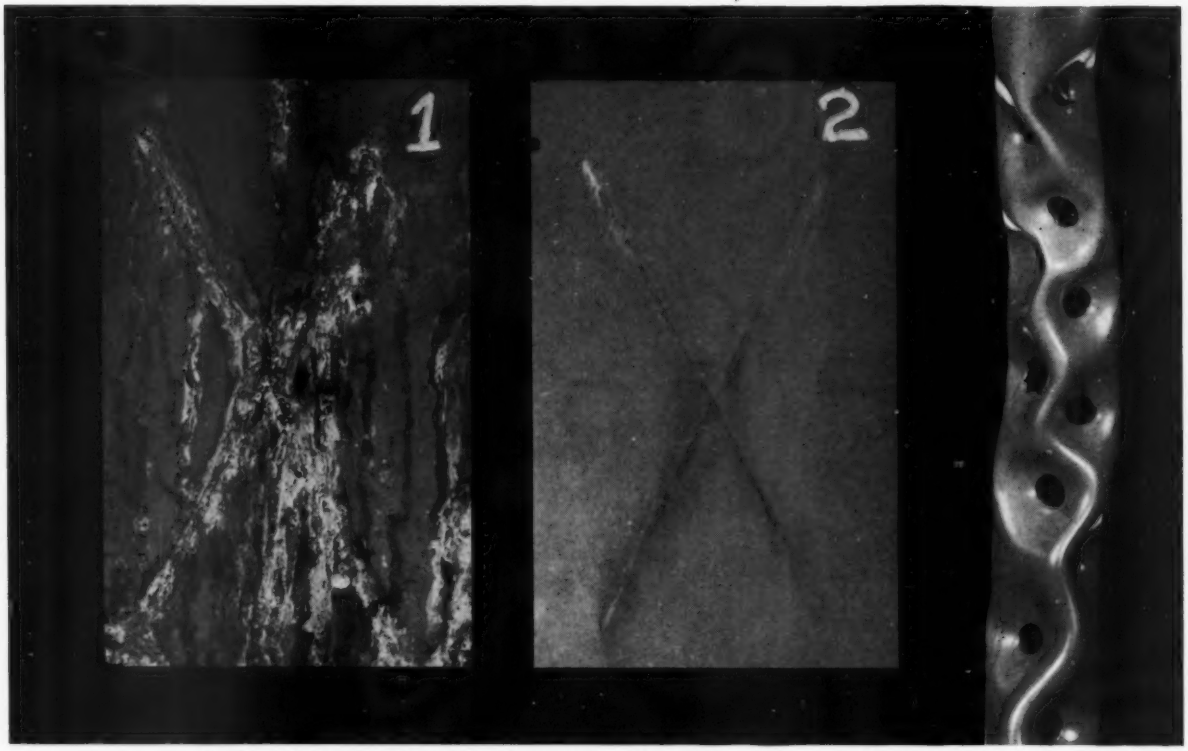
Although the drive mechanism remains substantially unchanged, two fittings have been added to facilitate the application of grease. With the new fittings, proper lubrication is assured as the grease is applied after assembly and in such a way as to fill the spaces provided. Should any relubrication be

to Page HL-44 →

For economical under-paint protection

ask Oakite

OVER 50 YEARS CLEANING EXPERIENCE • OVER 250 FIELD SERVICE MEN • OVER 160 MATERIALS



These two panels were identically painted, scored with an "X", and exposed to salt spray test for 480 hours. The difference: the one on the right was first treated with an Oakite CRYSCOAT iron phosphate conversion coating.

This painted tubing was CrysCoated. Repeated punching did not break paint grip despite severe abuse and deformation.

Oakite CRYSCOAT iron phosphate coatings cut the cost of corrosion-protection

You get proper protection *plus* economy with CrysCoat iron phosphate coatings.

First of all, they lock paint to steel, giving a superior paint grip under bending stresses. Bend tests show less chipping and flaking of paint. And note how paint held tight even at punched holes in the sample above.

Secondly, they keep corrosion from spreading at every scratch, as the panels above show so graphically.

But most important, they save money. Because CRYSCOAT iron phosphate processes *clean* as they phosphate. Because you need only a three-stage washer. Because *no* acid-proof equipment is required. You save both on equipment and production time. In addition, the smoother iron phosphate coatings soak up less paint than coarser phosphate coatings... giving you a sleek finish with one less coat.

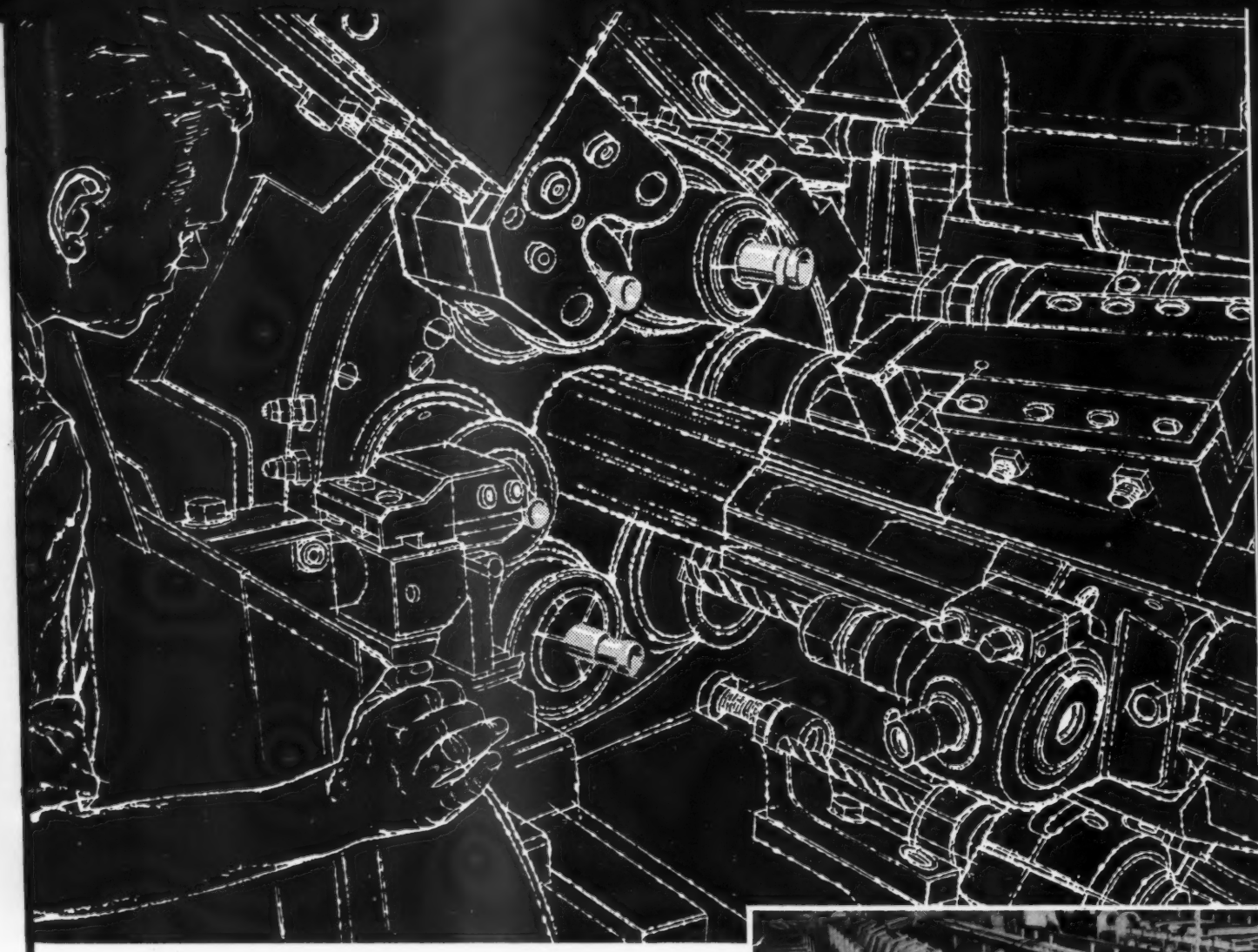
It will pay you to *ask Oakite* about phosphating. You'll find the right one for *your* requirements in the complete CrysCoat line which includes both zinc and iron phosphate processes, for spray or tank, for room or elevated temperature operations. Meanwhile, write for Bulletin F-9475. Oakite Products, Inc., 32H Rector Street, New York 6, N. Y.

it PAYS to ask Oakite

OAKITE

SCIENCE

50 *1909-1959 years' leadership in industrial cleaning*



The Ultimate Test

The ultimate test of quality in stainless steel bars takes place in screw machine production, where every bar is literally cut to pieces.

The Perry-Fay Company, Elyria, Ohio, a leader in screw machine production, has been subjecting J&L bars to this demanding production-line test for more than a year, **without a single failure, without a single reject.** Perry-Fay reports: "We consistently get superior surface finish, closer tolerances, fully formed rolled threads with J&L stainless bars."

Whether you need stainless steel bar stock for high-speed, high-production operations, or a single bar for extraordinary requirements, turn to J&L. J&L leads the industry in melt shop standards for stainless steel, the point where quality starts—and new production profits begin.

Careful attention to many production details is the key to J&L quality

Plants and Service Centers:
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STAINLESS
SHEET • STRIP • BAR • WIRE

Jones & Laughlin Steel Corporation • STAINLESS and STRIP DIVISION • Box 4606, Detroit 34

Norge washer

(Continued from Page HL-41)

needed after long service, this can be done with a grease gun and without taking the assembly apart.

All models, save the AW-161, have, as before, a two-piece agitator whose interior vanes force water upward through interior passages from which this water spills into a cup-like molded plastic container. It has a bottom face through which there are hundreds of fine holes forming a filter for lint removal. This cup fits on top of the agitator and is removable for easy cleaning.

Sump tubs are made, as before, from porcelain enameling steel, the bottom being 20-gauge and the body 22-gauge. Bodies are expanded with a contracted portion forming a throat at the top. Below the top (new for current models), an annular channel is formed outward to a radial depth of 3/16 inch. This provides more clearance space for the new and larger basket and increases the maximum od of the sump tub by 3/8 inch. Nevertheless, the new tub fits into the cabinet without increase in its size.

The tub is rolled, the ends joined by a mash seam weld, and then expanded and die-formed to its final configuration. Subsequently, the body and bottom are joined by a circular mash seam weld. In the new tub, however, the necked portion at the top is die-formed inwardly at one point to provide a flat wall in a recess to fit the flange of the new flume inlet used on the majority of the new line. All tubs receive a dip coat and a spray reinforcement coat of porcelain enamel on all surfaces.

Norge dryer

(Continued from Page HL-21)

laundries. All models have the "square look," attained by using much shorter radii at the front and top edges of cabinets.

In the dryer line, there are five electric and five gas models that parallel washer models in general appearance. An important styling change on several models in the intermediate price group is the use of a "floating" back guard. Back guards of this new type do not seat directly on the stamped steel top but rest on two chrome plated pedestals about one inch thick. These die castings are of zinc alloy and are hollow cored. Wires connecting controls on back guard panels to units inside the dryer cabinets pass through the pedestals. On one model, however, a back guard rest-

AUTOMATIC FLOW COAT EQUIPMENT

for the Home Laundry Industry

Chicago Vit LEADERSHIP first brought you ALKALI RESISTANT GROUND COATS . . . first brought you STEAM VAPOR RESISTANT GROUND COATS . . . first brought you ALKALI RESISTANT TITANIUM COVER COATS . . . Now brings you AUTOMATIC FLOW COAT EQUIPMENT—exclusively engineered and manufactured by Chicago Vitreous.

Ask your Chicago Vitreous representative to discuss the uniform quality and other production advantages that flow coating may hold for you.

Chicago Vitreous CORPORATION

A Division of the Eagle-Picher Company
1425 South 55th Court Cicero 50, Illinois

Norge dryer *(cont'd)*

ing directly on the top is retained, but in common with other back guards, this one includes decorative panels of new design.

These panels are of laminated plastic. The front face of each rear laminate is printed by silk screen methods before being fastened to the rear face of the transparent front laminate. Printing includes dial graduations and user instruction lettering, some being on beige and brown backgrounds that add considerably to an attractive appearance and harmonize with colors used on washers. Some back guards also include translucent plastic moldings in front of the luminescent light tubes. Chrome plated die-cast back guard frames and some secondary panels similarly plated also are employed, detail design varying from model to model.

Holes in laminated panels for fastenings are drilled or pierced, as are those for the short shafts that extend from controls and into knob recesses. As the front laminates of panels are transparent, markings on the front face of rear panels show through clearly but are protected against scratching and mechanical wear. All plastics used are resistant to water and to cleaning compounds that are common in laundries and also are substantially unbreakable.

Exposed portions of the small container for sprinkler water, including its hinged cover, are chrome plated, and the cover has wiped-in lettering conforming to that on back guards. Lower front cabinet panels have recessed horizontal lines that make the panel more attractive in appearance. Center front panels are hinged and provide access to the cylinder for loading and unloading.

Only one belt is required to drive the cylinder and the air circulating fan that turns at 700 rpm.

Systems for heating and circulating air, except for the gas valves already mentioned, remain as in earlier models, as they meet all requirements and have given excellent satisfaction. In gas models, air leaving the heater can be at either 225° or 280° F. On electrically-heated models, settings can be made to heat the air to 150, 180 or 220° F.

Cylinders of all dryers are made from cold rolled steel that, as formerly, is phosphated before the epon finish is applied. In the new models, however, a zinc phosphate rather than an iron phosphate is employed to afford higher corrosion resistance and still promote the excellent bond of the epon finish.

Ten points

→ *from Page HL-19*

sel. AHLMA, for example, employs a large Washington firm that has many other clients in the field, and is a recognized practitioner and authority not only in Anti-trust Law but also in all other phases of trade association law and management. This firm is rich in counsel on tactics and policy, as well as legal issues, and serves as a guide and source of continuity. Such counsel provides checks and balances against board, committee, and staff errors — and in AHLMA often the source of "How To Do."

Fifth, in AHLMA there is one other independent connection which is considered essential to its operations. This is the CPA firm handling statistical data on an economical, accurate, and confidential basis.

A firm such as this has: A. Absolute integrity, for security of individual company data involved. B. A capacity to handle overload of data. The firm AHLMA uses has computing, typing, and other resources that can easily meet unusually large demands. C. Unquestioned competence. D. Available professional counsel of great breadth and value, and based on experience with many industries.

Sixth, another point which has proven to be extremely useful to AHLMA is the maintenance of nearly 100 per cent of the industry in membership. The companies obviously benefit. The outsider loses more than he saves. The acceptance of industry statements as authoritative, as indeed they are, is most advantageous (and an awesome responsibility for those of us involved). Decisions are made quickly in such a setting and they are conclusive. They obviously represent the will of the whole! Amazingly often, they are unanimous. When they are not, this situation is favorable to members working hard and patiently for unanimity.

Seventh, a homogeneous industry is important, too, to a trade association. Decisions are based on one criterion: What good does it do for our industry? In AHLMA, for instance, all products in which the association is interested are consumer durable goods. There is no internal competition. Communication, therefore, is quick. Committees and staff know each other intimately and understand well the situations each faces.

Eighth. Important, of course, is fi-

nance. Financing must be adequate, fair, and equitable to all members regardless of size or class.

A wide range of "fronts"

Ninth, to be truly strong, an association must have top rate programs on a wide range of "fronts." Some organizations may excel in one or two activities — and become quite famous for them. Such organizations are inherently weak, however. AHLMA's activities, for instance, include: 1. Statistics, 2. Product promotion. 3. Educator education. 4. Traffic. 5. Product service. 6. Engineering. 7. Industrial relations. 8. And many others.

Very few of them are weak and you can be sure we are working on those.

Associate memberships

Tenth. Many associations find associate memberships useful. These are affiliates in supplier or closely-related industries, and their inclusion in appropriate conventions and meetings facilitates communication and expedites useful work. AHLMA has 50 such associate member companies.

Numbers one through five, you will note, are mostly about people — who, if strong and interested, will breathe life and vigor into an association.

Numbers six through ten are strategic, like the setting of chess men or soldiers.

The best associations have "right" combinations of both. Any association with weak uninterested personnel (members and/or staff), or with an unfavorable strategic setting, is headed for an upheaval or oblivion.

Executive statements

→ *from Page HL-40*

spending benders in American economic history.

Our prediction for the growth of the Home Laundry Industry in the next ten years depicts sales of washers climbing from 2,800,000 in 1959 to 3,900,000 by 1963, and then onward to a peak of 4,000,000 units by 1968.

Sales of dryers in the next ten years are just as startling. By the end of 1959 the industry will have sold some 900,000 dryers. This will rise to 1,275,000 in 1963, and then will hit the 1,500,000 mark by 1968.

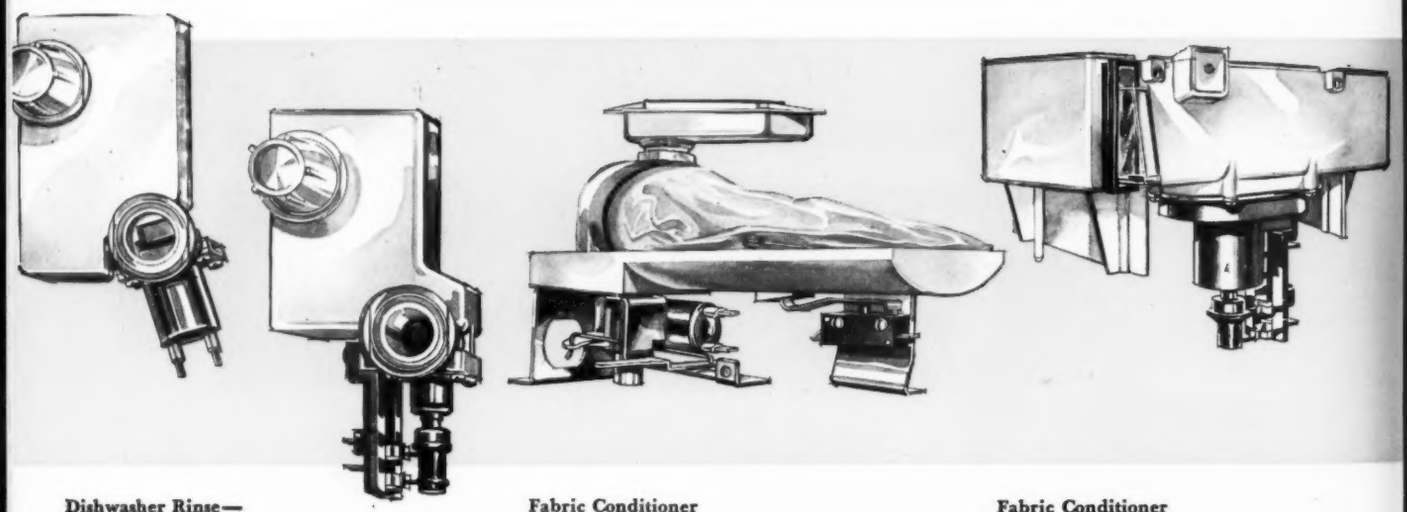
Certainly Home Laundry is pointing the way to sound economic and profitable growth as its major contribution in the major appliance industry.

Want selling features you never had before?

Product Exclusives in automatic dispensing and control?

DOLE'S team of application engineers can provide exciting, functional answers to your design problems. Can implement your basic ideas. Create dramatic *product exclusives* in automatic dispensing and control. It's no wonder leading appliance manufacturers call on DOLE when their product future is first on the drawing board. Your design problems (dispensing, flow rate, mixing, temperature control, shut-off, ignition) are our opportunity. Call us today.

DOLE appliance dispenser-controls



Dishwasher Rinse—Additive Dispensers
Used to eliminate water-spotting, speed up drying. Store additive for automatic injection into dishwasher cycle, according to pre-set amount.

Fabric Conditioner Dispenser D2
Unique polyethylene bag stores fabric conditioner fluid. Electrical signal tells when to refill. Adjustable from 1 to 4 ounces per shot according to pre-set instructions.

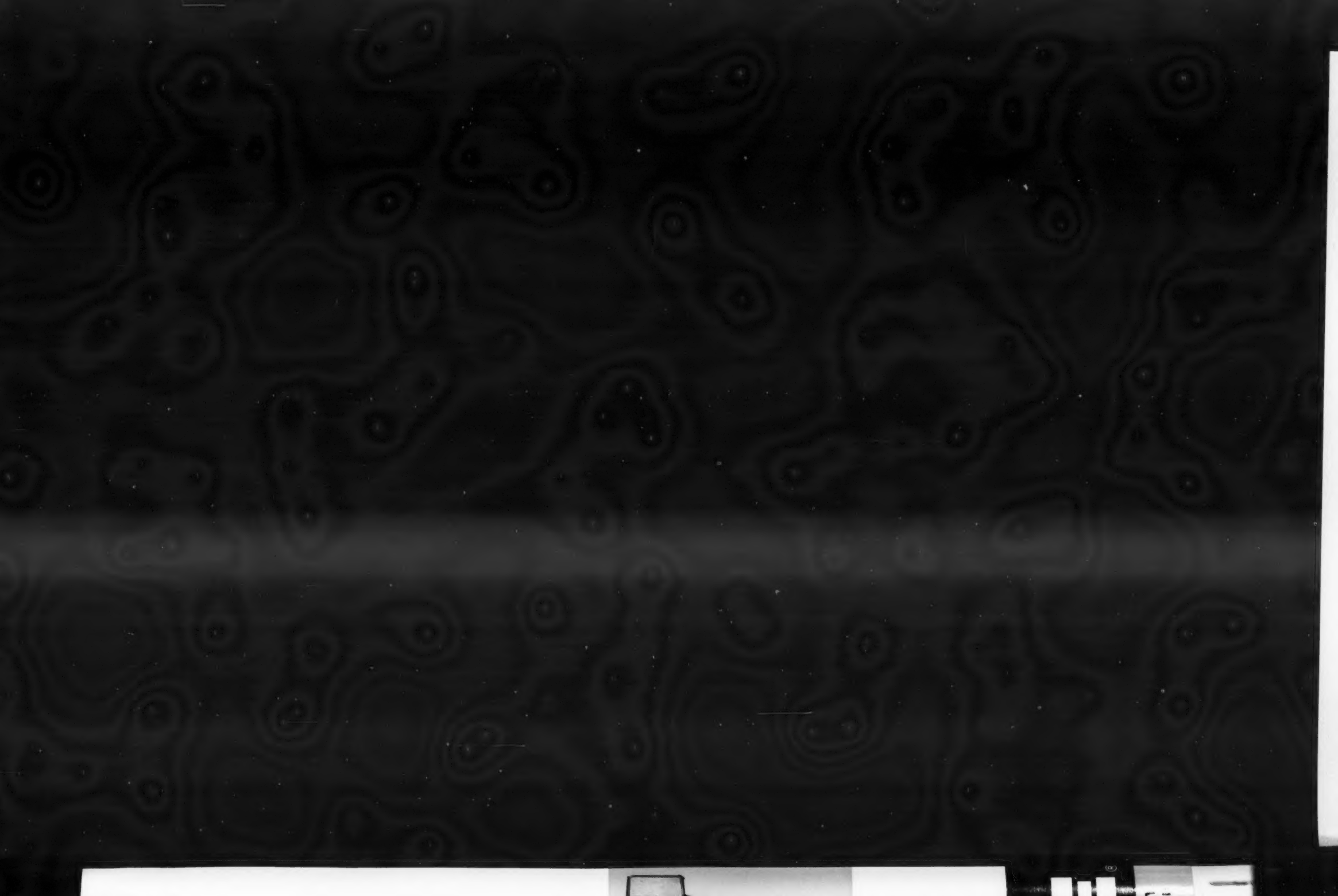
Fabric Conditioner Dispenser
Increases whiteness, preserves original softness of fabric. Stores quart of conditioner fluid. Automatically injects in rinse water according to pre-set instructions.

Application-engineered to put *Sell* in *Your Product*

Controls by

DOLE®

THE DOLE VALVE COMPANY
6201 Oakton Street, Morton Grove, Illinoi
Dole Valve Co., of Canada Ltd.



WHITE DIRECT-ON

porcelain enamels for non-premium steels...

Industry's quest for *one-coat* white porcelain enamels for *nonpremium* steels is ended. Long sought . . . years in development . . . Ferro's new "White Direct-on" process has been field-tested in customers' plants for more than a year, has proved highly successful and is now in commercial production.

SAVINGS are substantial—varying, of course, with the products being finished. THINNER COATINGS (3½ mills minimum), plus *nonpremium steels,* plus reduced handling—all influence potential cost reductions.

QUALITY of the finish is excellent. ADHERENCE of the porcelain enamel to metal is equally so. The thinner, TOUGHER COATINGS provide greater resistance to damage from flexing and handling.

REFLECTANCE is easily controlled, meeting all standards for reflectors, home appliances, other exacting applications.

High ACID RESISTANCE, meeting industry standards for range tops, is no problem with "White Direct-on" . . . nor is high ALKALI RESISTANCE as needed and specified by laundry equipment manufacturers.

EASY WORKABILITY in your plant is another feature. FIRING AT 1450-1550° F., Ferro's new "White Direct-on" finishes require no major changes in your porcelain enameling setup. And they are ADAPTABLE to the most modern, high-production, porcelain enameling systems (flow-coating, automatic spraying, etc.)

METAL PREPARATION is the secret of this new, lower cost finishing process. A new system of pickling and nickel deposition provides an excellent base for the "White Direct-on" porcelain enamel, especially developed for this process.

If you would like to use porcelain enamel and have felt you couldn't afford it—or if you are interested in cutting production costs of porcelain enameled products—Ferro's "White Direct-on" could be your answer. When can we come in and show you samples, tell you all about it?

New products, processes, production techniques, equipment

FERRO

FERRO CORPORATION

4150 EAST 56TH STREET • CLEVELAND 5, OHIO

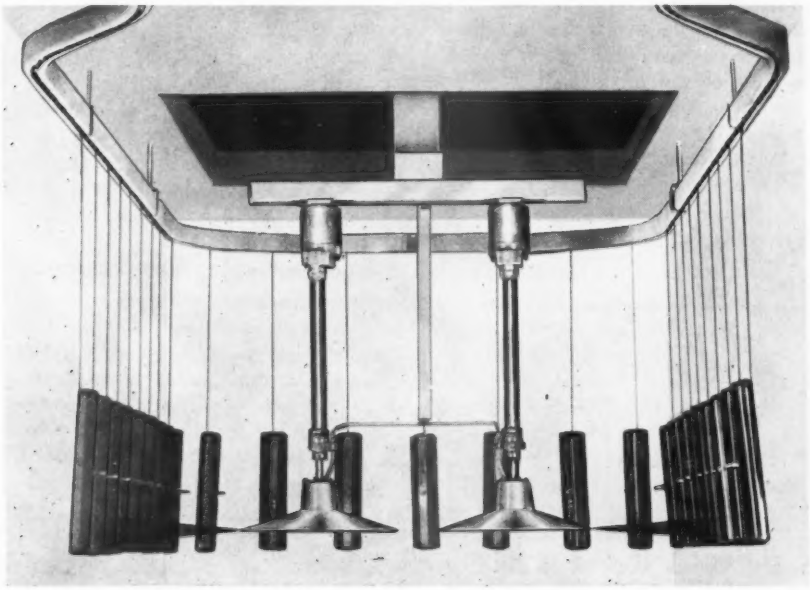
Nashville 11, Tennessee • Los Angeles 22, California

Multi-color spray system uses centrifugal atomizers

A CENTRIFUGAL-TYPE, multi-color spray system is now available. Designated as Model M-50, the system utilizes an array of variable speed, electrostatically-charged, centrifugal atomizers for blending of solid single color coating materials to produce various types of multi-color patterns and finishes. A 140,000-volt, high-potential power supply is used to ionize the coating material particles as they are projected by centrifugal force. This charge assists atomization dispersion and deposition of the coating materials onto the articles to be coated, which are conveyed around the atomizer heads.

The system is flexible enough to coat various sized and shaped parts because the atomizers are positionable relative to each other and to the conveyor. The entire atomizer array can be swiveled to obtain necessary clearance for large or small parts.

These variable control characteristics facilitate applying unusual finishes. Both reciprocating and stationary models are available to meet specific needs. For further information, contact Dept. MPM, Ionic Electrostatic Corp., Garfield, N. J.



Production installation shows lamp parts being coated by reciprocating centrifugal atomizers for blending of multi-color finishes.

Appliance Service—Pros and Cons (Editor's comment)

STARTING IN THE JULY ISSUE OF MPM, a new series of editorials and case histories on the subject of appliance service at the user level was inaugurated. The "Finish Line" for July and for August covered specific case history material within the knowledge of the MPM editors. Also in August was a guest case history feature by Max Blackman, fashion editor of the Houston Chronicle, Houston, Texas. There will be other information of this nature appearing in later issues of MPM to bring this critical issue strongly before our OEM readers. (MPM is not mailed to distributors, dealers or the public.)

As we all know, there are always two sides of any picture, and it is not our intent to present one side only. The "Finish Line" editorial in this issue is a constructive editorial by Arthur E. Meling, manager of technical services, of the Unitary Equipment Division of Carrier Corporation, which gives a successful manufacturer's viewpoint on the subject of service.

Already scheduled for presentation are additional features which will include case history information on the operation of modern service organizations in various parts of the country.

As always, MPM editors will welcome letter comments or suggestions in connection with this all-important service problem.

Caloric June Sales Up

Sales of the Caloric Appliance Corp. in June increased 45 per cent over the comparable month last year, it was announced by Julius Klein, president. For the 12-month period ending June 30, sales were up 23 per cent over the like period of the previous year. Klein attributed the increases, in part, to consumer acceptance of newly-introduced products such as sinks, ventilating hoods, and disposers.

Lewyt President Predicts Expanded Appliance Sales

Alex Lewyt, president of the Lewyt Corp., vacuum cleaner manufacturers, has stated that the nation's major appliance distributors are preparing to expand their sales forces in expectation of a soaring demand for electrical gadgets during the fall and winter.

Lewyt's frequent contacts with distributors in scattered markets indicates that they anticipate sharp rises in the sale of washing machines, dryers, vacuum cleaners, and dishwashers.

TMW Buys Cookware Line

Textile Machine Works, Reading, Pa., has purchased the Prizer-Ware line of cookware from Prizer-Painter Stove Works, Inc., and will manufacture the utensils in the foundry division of TMW, according to Hermann P. Good, manager of the division. The castiron cooking line is porcelain enameled and manufactured in a number of color combinations.

Maytag Sales, Earnings Reach Record High

Both sales and earnings of The Maytag Co. reached record highs in the first half of 1959, according to the interim financial report. Sales increased 31 per cent over the first six months of 1958, and earnings nearly doubled those for the same period a year ago.

Consolidated net sales for the company and its subsidiaries totaled $62,718,974 in the six months ended June 30, compared with $47,970,163 in the 1958 first half. Net income amounted to $6,657,435 compared with $3,390,990 for the same period a year ago.

NESA Meets in Cincinnati

The sixth annual National Electric Sign Assn. Fall Conference at the Netherland Hilton Hotel in Cincinnati, Sept. 17-18, will have as its theme "Operation Know-How." The second-day session will be devoted to the various phases of plastic signs.

AHLMA Gets New Member

O'Keefe & Merritt Co., Los Angeles, manufacturers of combination washer-dryers, free-standing gas ranges, gas and electric built-in ranges and electric generators, has been elected a regular member of the American Home Laundry Mfgs. Assn., according to Guenther Baumgart, association president. This brings the total membership of AHLMA to 19.

Sylvania Establishes Div. To Market TV Cameras

The establishment of Sylvania Electro-Specialties, a new organization responsible for the marketing of closed circuit television cameras and related equipment, has been announced by Sylvania Electric Products, Inc. Marion E. Pettegrew, senior vice president in charge of the Home Electronics Div., concurrently announced the appointment of Bernard O. Holsinger as director of marketing of the new department.

Hold First Western Appliance Technical Conference

The first Western Appliance Technical Conference sponsored by the Los Angeles Section of the American Institute of Electrical Engineers and the National Subcommittee on Domestic Appliances will be held at the Biltmore Hotel in Los Angeles, Nov. 16. All major segments of the appliance industry will be represented.

Springfield Boiler Moves Offices To Milwaukee

Cleaver-Brooks Co. has announced the transfer and expansion of administrative, sales, and engineering offices of its wholly-owned subsidiary, Springfield Boiler Co., Springfield, Ill., to its Milwaukee headquarters.

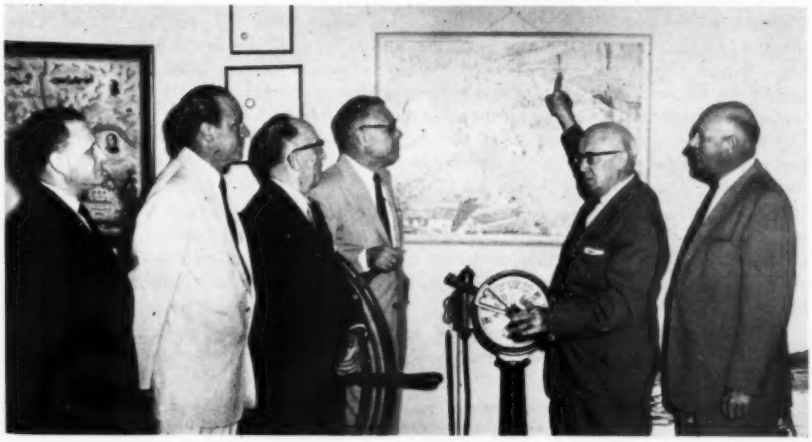
Concurrently, John Cleaver, president, announced that F. W. Hainer has been named president of the subsidiary. Hainer is executive vice president of the parent company.

Norge Announces Rust Guarantee

A written guarantee against rust on automatic washer and clothes dryer cabinets has been announced by the Norge Div., Borg-Warner Corp. Judson S. Sayre, president, said the warranty would apply on 1960 Norge washers and clothes dryers at no extra cost. "In 90 per cent of the country, rusting be-

Speed Queen Welcomed As Seaway Shipper

Milwaukee Port Director H. C. Brockel points out the location of Municipal Pier No. 1 during ceremonies welcoming Speed Queen, Ripon, Wis., as a St. Lawrence seaway shipper via the Wisconsin port. With Brockel are (l-r) Speed Queen officials Dean Morrison, export manager; Juan C. Weideman, director of exports; Reg James, vice president-director of sales; J. M. Morris, advertising manager; and Harold Pink, Milwaukee area district manager.



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Time-tested. Trouble-free operation in the field is proof positive of the Robertshaw TE Electric Thermal Eye's success story. If you have not already received samples or complete information on the new TE2, write today. We will be happy to furnish you with full details. **Indiana Division, Robertshaw-Fulton Controls Company, Indiana, Pennsylvania.**

VMA 6766

Robertshaw

MR. CONTROLS

gins within three years. There is no place in the U.S. that rust is not a problem," added Sayre.

Cerro De Pasco Merges Titan

Cerro De Pasco Corp. merged its subsidiary, Titan Metal Mfg. Co., into the parent organization July 1. William W. Sieg, who joined Titan in 1929, will continue as president and chief executive officer of the new division.

Large Continuous Coating Unit Installed At Armco

Said to be the steel industry's largest, fastest, and widest continuous coating unit for the production of zinc-coated steel sheets, the unit will be installed at the Middletown Works of Armco Steel Corp., according to company officials.

Clyde G. Davies, vice president-operations, Armco Div., said that the 565-foot line will practically double the capacity to produce coated grades of steel at Middletown, and will provide for the addition of aluminizing equipment at a later date.

Chicago Dial Moves To New Plant

Chicago Dial Co., fabricators of glass parts for the appliance industry, moved into their new plant, located at 1315 North Branch St., Chicago, on July 20th. The building occupies 100,000 square feet on one floor and is served by the Chicago, Milwaukee and St. Paul railroad.

New Water Heater In Production

The first new Burkay 668, a gas-fired water heater just introduced by the Permaglas Div., A. O. Smith Corp., Kankakee, Ill., rolls off the production line. The new unit has an input of 300,000 Btu an hour. Making sure that everything is in order are, left to right, Don Le Beau, product development engineer; L. W. Roye, assistant to sales manager, commercial water heaters; and Walter Bogusz, chief product engineer, commercial water heaters.

Waste King to Make Built-ins

Waste King Corp., Los Angeles, has introduced a new line of gas and electric built-in ovens and ranges. The Waste King kitchen package now includes waste disposers, automatic dishwashers, indoor incinerators, and built-in gas and electric ovens and ranges. Pictured is the Deluxe electric oven, features of which include a large safety-glass full-view window.

Firm Begins Manufacture of Appliance Controls

American Standard Products Ltd. (Canada), began manufacturing controls for the appliance industry in July. Manufacture of water-mixing valves for automatic washers came first with other products to follow, according to a joint announcement by C. W. Johnson, president of the Canadian company, and F. J. Kreissl, president of Detroit Controls Div., Detroit, which has produced these valves for the Canadian market since Jan., 1955. Both companies are divisions of the international American-Standard organization.

R. B. Denison Moves To Expanded Facilities

The R. B. Denison Mfg. Co., manufacturers of heavy duty and precision limit switches, has moved into expanded facilities in Bedford, Ohio. Denison recently introduced a new precision switch, prompting the move. Their new plant near Cleveland will have increased manufacturing facilities all on one floor, plus ample warehouse facilities.

Lewin-Mathes Div. Gets Modernization Program

A copper and brass tube mill modernization program has been approved by the board of directors of Cerro de Pasco Corp., to be undertaken by its division, the Lewin-Mathes Co., according to Robert B. Koenig, Cerro de Pasco president. Koenig said that work on the project has already been initiated at the Monsanto, Ill. plant.

Dr. Cerulli Heads Ceramic Section

Dr. N. F. Cerulli is now in charge of the Ceramic Section of Aerojet-General Corporation's Materials Research and Development Department under the direction of Dr. Paul A. Huppert. In industry for over eighteen years, Dr. Cerulli completed his final academic training in 1958 when he obtained his Ph.D. in ceramics from Rutgers University. He has received several awards for technical papers and patents.

All Paint Show Exhibit Space Assigned

Dr. Fred C. Weber, chairman of the Paint Industries' Show Committee of the Federation of Paint and Varnish Production Clubs, has announced that all exhibit space in the Paint Industries' Show for 1959 has been assigned.

The show will be held in the Lower Hall of the Atlantic City Convention Hall Oct. 20-24. One hundred and six exhibitors will occupy more than 20,000 square feet of exhibit space.

Rieger To Speak At PEI Annual Meeting

C. K. Rieger, vice president of General Electric Co., will present the keynote address at the Porcelain Enamel Institute's 28th annual meeting at The Greenbrier, White Sulphur Springs, W. Va., Sept. 24, 25, and 26. The annual meeting theme will be "The Challenge of Profits." Rieger is general manager of GE's Major Appliance Div., Louisville, Ky.

Westinghouse Wins The Snowman

The Air Conditioning Section of NEMA has announced that Westinghouse Electric Corp. has won the Snowman Award. The purpose of the award is to honor the manufacturer which has done the most outstanding job of conducting the industry's "Beat the Heat" promotion.

Fedders Sets July Records

The shipment of Fedders air conditioners from both the factory level and the wholesale level set alltime records for the month of July. According to Edward M. Becker, sales manager of the Fedders Corp., the high rate of movement has depleted the factory stocks of all two-hp and high capacity one-hp models as well as certain other numbers. July, usually a slow month for factory shipments, was the second largest month of the 11-month fiscal period and more than doubled July, 1958. As for distributor-to-dealer movement, the sales manager reported that July was the largest month of the year and topped last July by 71 per cent. For the 11-month fiscal period, Fedders distributors already shipped 9-per cent more air conditioners than were shipped all last year.

PEI Annual Meeting

"The Challenge of Profits" will be the theme for the business sessions at the Porcelain Enamel Institute's annual meeting. The meeting will be held at The Greenbrier, White Sulphur Springs, W. Va., September 24-26. The keynote address will be delivered by C. K. Rieger, vice president, General Electric Co. Other speakers will include: William E. Hill, president, William E. Hill and Co., Inc.; S. J. Randall, president, General Steel Wares, Ltd.; and James A. Bourke, vice president, First National Bank of Chicago.

Major Fairmont Aluminum Sheet Mill Expansion

Cerro de Pasco Corp. has announced that Fairmont Aluminum Co., a wholly-owned subsidiary, has embarked upon a program which aims initially at increasing the annual capacity of the company's Fairmont, W. Va. aluminum rolling mill from 25,000,000 to 66,000,000 pounds of finished aluminum coil and flat sheet products up to 60 inches wide. This first step in a multi-million dollar program is estimated to cost $10 million, including provision for additional working capital. The overall program contemplates a subsequent step-up in productive capacity to 120,000,000 lbs.

DuBois Opens Southwest Plant

The DuBois Co., Inc. has opened this new Southwest plant and sales office at 8770 S. Central Expressway, Dallas, Texas. The building contains over 35,000 sq. ft. of manufacturing space. DuBois manufactures and distributes chemical cleaning compounds for the metal working industry.

USCM Awarded Contract

United States Chemical Milling Corp., Manhattan Beach, Calif., has been awarded a $600,000 contract by Dariomatic, Inc., for the manufacture of the new Dariomatic 510 and 610 vending machines. Spokesmen for USCM stated that the firm is now commencing production of the newly-designed automatic machines which vend milk and fruit juice and, that by mid-September, will be making quantity deliveries. This award, coupled with the $2,000,000 contract for fresh-brew coffee vending ma-

→ to Page 108

THE finish LINE

The case for preventive service

A GUEST EDITORIAL

by Arthur E. Meling

NEARLY EVERY COMPANY in the competitive appliance industry is agreed on two things — (1) that servicing is essential, and (2) that service isn't adequate because dealers can't maintain a sufficient year-round staff of qualified personnel.

Before going further, let me point out that this reasoning concerns itself with servicing on a *failure* basis.

Understaffed and overworked

Up to now, most consumers and dealers have considered service on a *failure* basis, waiting for trouble to develop, instead of on a *preventive* basis. As a result, service departments are understaffed and overworked during peak seasons, with the resultant "poor service" that most consumers are generally complaining about.

Under these conditions, it is impossible for a dealer to retain and train an adequately staffed service department.

Obviously, qualified servicemen cannot be obtained without assurance of fulltime employment, and the dealer cannot afford fulltime employment without having the year round service department income that can only be obtained from service contracts that are negotiated on a preventive basis so that a fair portion of the maintenance work can be done during the off seasons.

Preventive service programs

Recognizing these handicaps, progressive firms are taking steps to inaugurate preventive service programs in which systematic maintenance provides for better consumer service through year-round stabilization of dealer servicing organizations.

No doubt, the consumer must be shown how periodic maintenance benefits him in the same way as an insurance policy, protecting his original investment. Preventive maintenance should also provide lower operating cost, longer equipment life, fewer breakdowns, and quicker service in case of emergency.

It can also be brought home that this program will insure him peace of mind because of better maintenance by experienced personnel. Last, but not least, of the consumer benefits is that preventive service can be budgeted.

Benefits to — dealer, consumer, and manufacturer

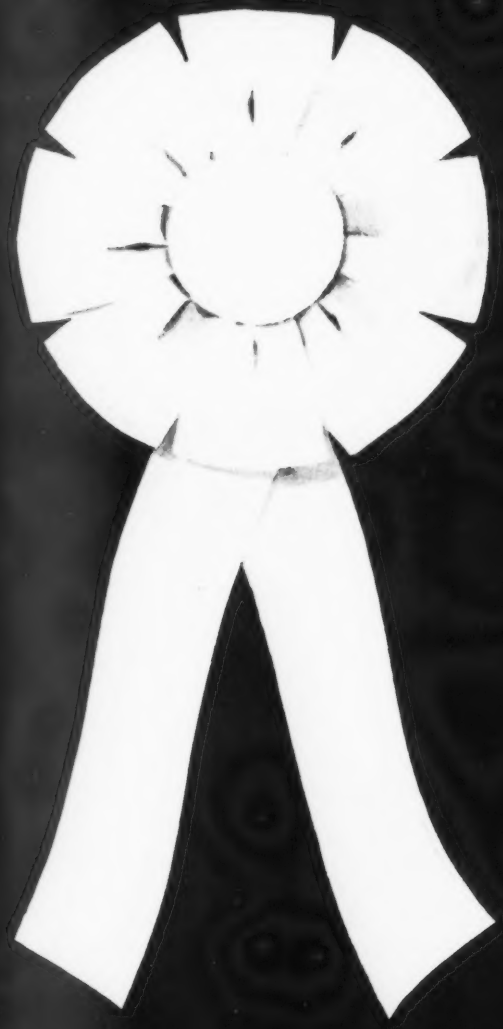
The most obvious benefit of such a program to the dealer is that it provides him with a year-round source of income to carry him through the "off season" of his business. It also permits him to employ full time service personnel, and adequately train them. It aids in selling products and keeping the customer's confidence in that product. It keeps the dealer favorably in the customer's mind.

A preventive service program also develops additional sales leads and frees the regular selling organization from the time consuming service calls and complaints.

It should also be of benefit to a manufacturer to encourage dealers to embark upon a preventive maintenance service policy program. Any manufacturer undertaking such a service policy program should instruct its dealers that service must be sold as aggressively as any product, and sales people should be thoroughly acquainted with its advantages. Only then does it become a two-edged sword that will make a profit by itself and will sharpen the sales effort for the company's products.

Arthur E. Meling, Manager of Technical Services of the Unitary Equipment Division of Carrier Corporation, not only directs technical services, but has a major assignment in the product planning activity of his division.

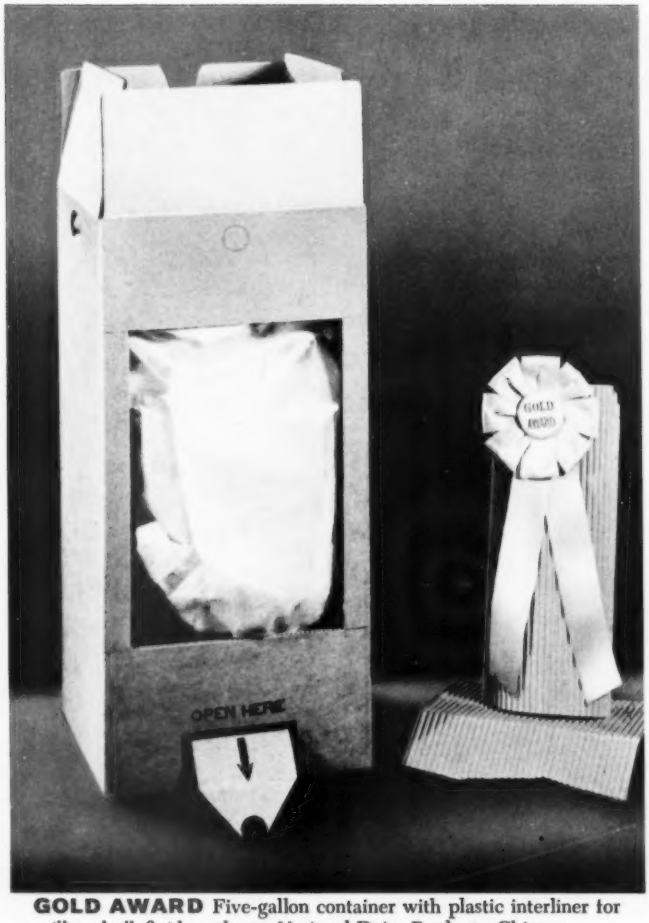
Starting as a Sales Engineer in Chicago in 1928, Mr. Meling has spent over 31 years with the Carrier Corporation. During this period he has carried major executive responsibilities in both the field and home office operations. This has included managership of the Central Region in Chicago, and of the Weathermaker Department in Syracuse. He is a graduate of M.I.T.



Presenting the 10 prize-winning designs by the Container Division of International Paper

Exhibited at the Fifth Annual Competition of the Fibre Box Association in Washington, D. C.

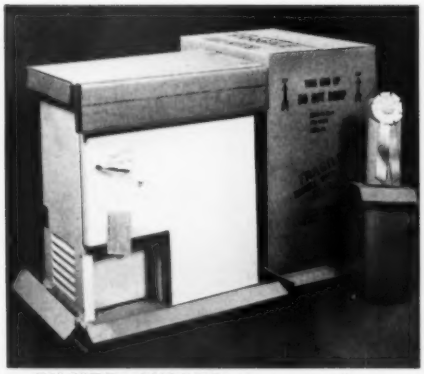
International Paper wins 10
new or improved



GOLD AWARD Five-gallon container with plastic interliner for milk or bulk fluid products: National Dairy Products, Chicago.

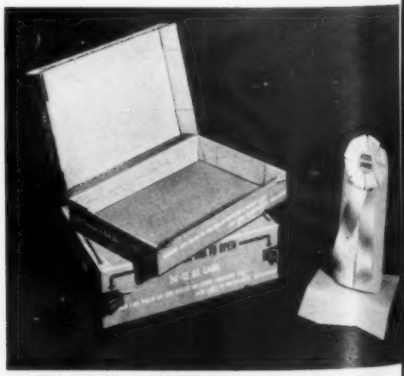
GOLD AWARD Electric clock container with die-cut inner packing to "float" the large glass face: Haddon Clocks of Chicago.

These are the ten award-winning designs by International Paper, exhibited this year at the Fifth Annual Competition of the Fibre Box Association.



SILVER AWARD Corrugated container for home milk dispensers. Special platform bottom ends need for wooden skids: Norris Dispensers Inc., Minneapolis.

SILVER AWARD Shipping container for outboards with inner stand made of preassembled die-cut sheets: Kiekhaefer Corporation, Fond du Lac, Wisconsin.



SILVER AWARD Canned beer container for use in automatic, high-speed, end-loading can machines. With pull-tab opener: Miller Brewing Co., Milwaukee.

0 national awards for creating d uses for corrugated

Container Division receives two Gold Awards, three Silver Awards, and five Bronze Awards for 1958's best-designed corrugated containers in nationwide competition.

THE NATION'S LEADING packaging and merchandising authorities did the choosing. And at the recent nationwide Fibre Box Competition, they handed the Container Division of International Paper *ten major awards.*

We're proud but not surprised. The same design and manufacturing experts who won this extraordinary recognition are busy creating new and ingenious shipping containers for our customers every day.

As a result, our customers have come to expect the unexpected, almost as a matter of course. They'll tell you that in every International Paper container you get these *7 extra values:*

1. First-class engineering—truly *creative packaging* by the same team that originated the tube-and-cap design, now standard in the industry, the corrugated nail container, and others.

2. Time-proved box-making skill, acquired in making hundreds of millions of corrugated shipping containers every year.

3. Built-in savings. Our container specialists know how to select the right materials for greatest strength with least weight, the best design to save material and pack easily. Result: you save on packaging labor, shipping costs, and damage claims.

4. Convenient delivery. We deliver on time from 19 different box plants.

5. Virgin fibre for greatest strength, smooth surface, uniform color. These containers are made from America's top-quality liner, Gator Hide® kraft, and famous Chemfibre® corrugating medium.

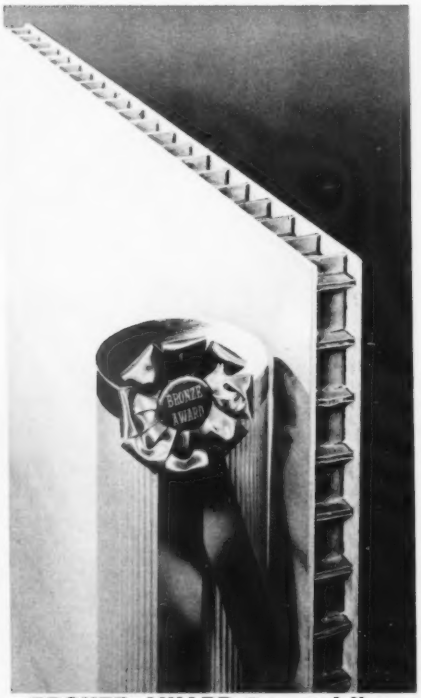
6. Fair prices. Our container prices are based on fair market value consistent with the top-quality materials.

7. A dependable source of supply. These are the only containers backed by the full resources of International Paper: timberlands, research labs, board mills, design service, quality control—total resources unmatched by any other container supplier.

Your Container Division packaging expert is as near as your phone. See map on back for number.

Container Division **INTERNATIONAL PAPER** New York 17, N. Y.

BRONZE AWARD Printing-paper container with polyethylene inner lining in place of asphalt laminates: S. D. Warren Company, Westbrook, Maine.

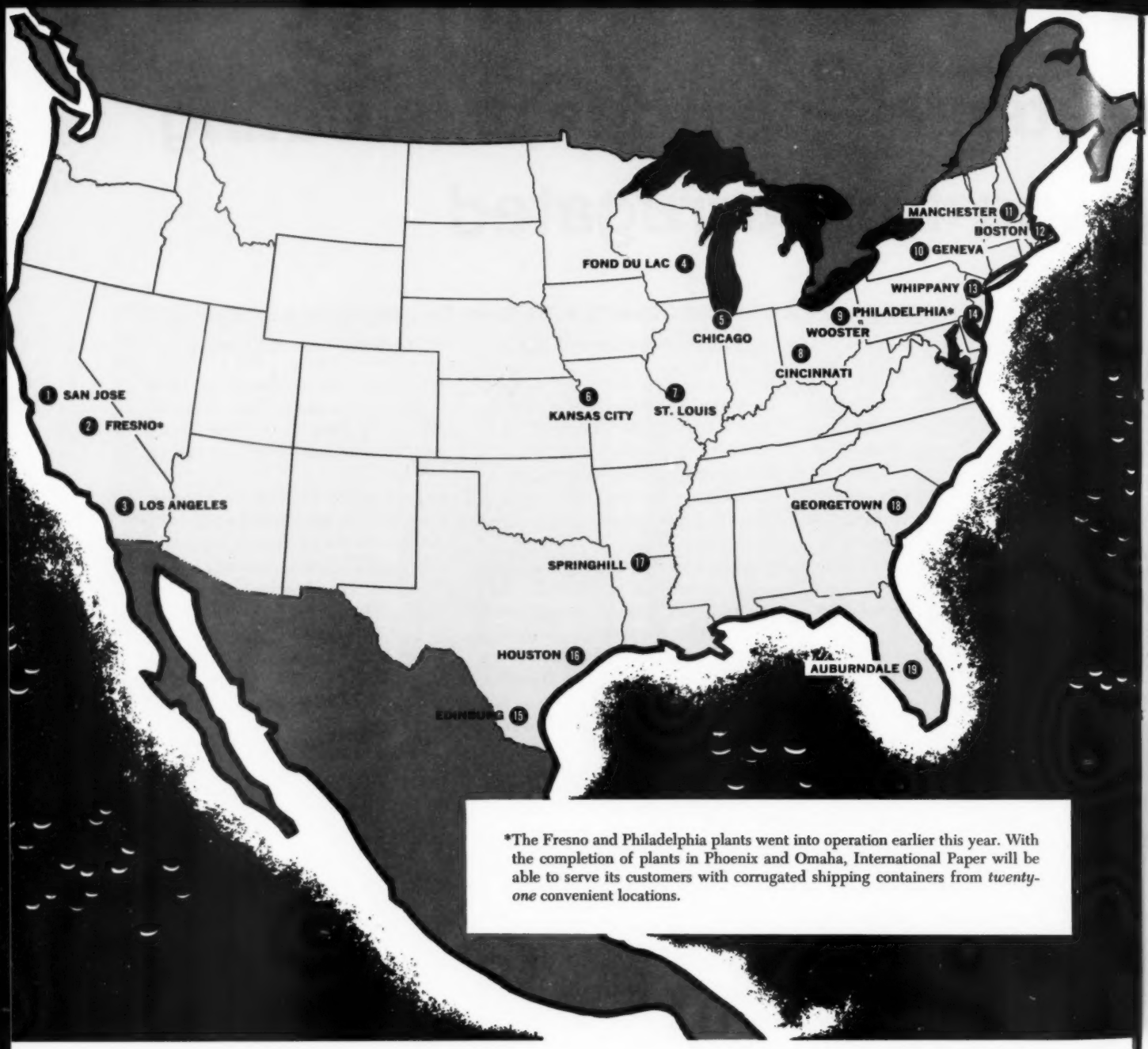


BRONZE AWARD Corrugated fibreboard-and-plywood combination building partition. Low in cost, light in weight, strong, ideal for all internal construction.

BRONZE AWARD Do-it-yourself mortar box made of water-resistant fibre board. Re-usable *or* disposable. Long Bell Division, International Paper Co. and others.

BRONZE AWARD Combination corrugated and wooden shipping container for avocados. Weight-saving and efficient: Calavo Growers of California.

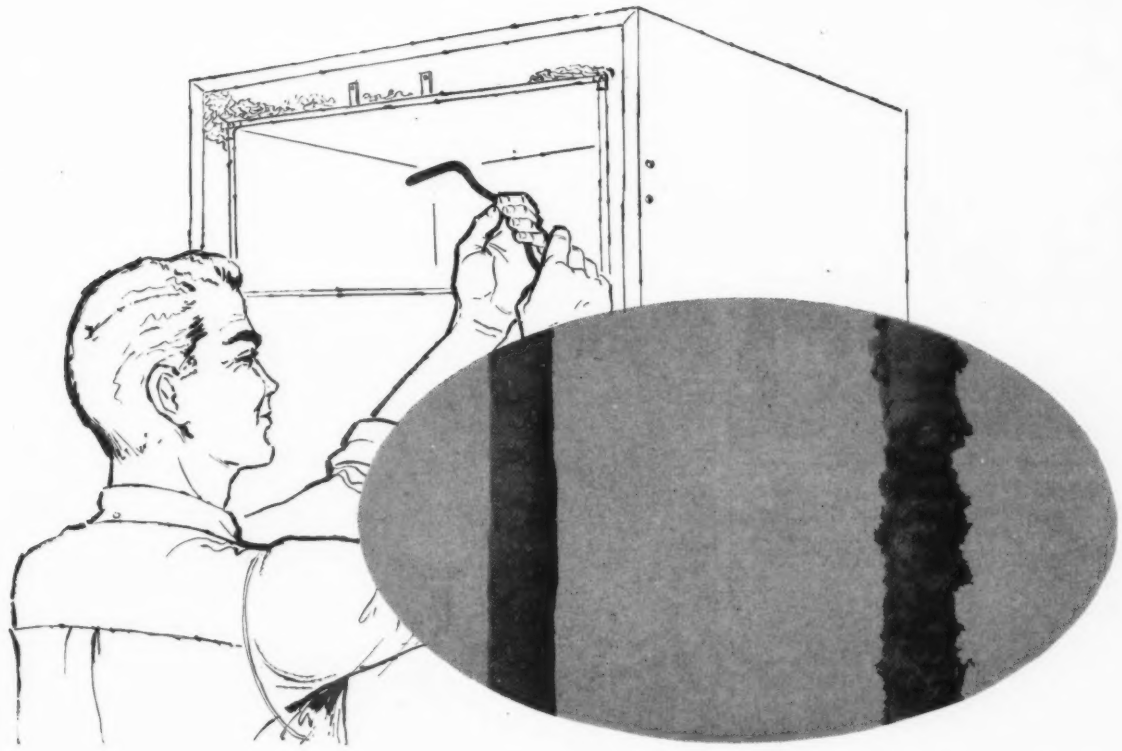
BRONZE AWARD Bonding-mortar container with polyethylene bag liner. Cuts costs, gives 70 per cent more storage space: A. P. Green Fire Brick Co., Mexico, Mo.



*The Fresno and Philadelphia plants went into operation earlier this year. With the completion of plants in Phoenix and Omaha, International Paper will be able to serve its customers with corrugated shipping containers from *twenty-one* convenient locations.

These 19 box plants of International Paper assure you quick, convenient <u>on time</u> delivery

1. San Jose, California
   1601 Las Plumas
   CLayburn 1-2210
2. Fresno 26, California*
   Box 591
   7447 No. Blackstone Ave.
   BAldwin 2-5281
3. Los Angeles 54, California
   6150 Sheila Street
   RAymond 3-4853
4. Fond du Lac, Wisconsin
   WAlnut 1-9600
5. Chicago 38, Illinois
   5133 West 65th Street
   LUdlow 5-7100
6. Kansas City 19, Kansas
   2100 Kansas Ave.
   Packers Station,
   Box 708
   FAirfax 1-2500
7. St. Louis 11, Missouri
   7901 Michigan Avenue
   FLanders 3-3322
8. Cincinnati (Mason), Ohio
   Mason, Ohio 4010
9. Wooster, Ohio
   689 Palmer Street
   ANgelus 3-5040
10. Geneva, New York
    Gambee Road
    GEneva 9-3946
11. Manchester,
    New Hampshire
    Hall & Hayward Streets
    NAtional 3-8825
12. Boston (Somerville 45), Mass.
    Clyde & Warwick Streets
    PRospect 6-1900
13. Whippany, New Jersey
    TUcker 7-4000
14. Philadelphia (Aldan), Pa.*
    Oak Lane & Providence Rd.
    MAdison 2-0750
15. Edinburg, Texas
    DUdley 3-1651
16. Houston, Texas
    6028 Navigation Blvd.
    WAlnut 3-9156
17. Springhill, Louisiana
    Box 881
    LEhigh 9-2543
18. Georgetown,
    South Carolina
    GEorgetown 3-3711
19. Auburndale, Florida
    WOodlawn 7-1181



New Wat-R-Bar® outlasts conventional sealers 200 to 1 ...50,000 freeze-thaw cycles and *still* going strong

Here is a new standard for freeze-thaw resistance. The inset above tells the ***Wat-R-Bar*** story: after being subjected to 50,000 freeze-thaw cycles it is still in perfect condition, while a competitive sealer has long since broken down after just 250 cycles.

Wat-R-Bar is odorless, non-contaminating, non-toxic; permanently plastic, non-drying with excellent adhesion and cohesion on all types of clean surfaces. It will not become brittle at —40°F, or shrink with age; will not affect rubber, plastics or lacquer surfaces. Comes in attractive ice-blue or white, available in bulk, extruded beads or tapes for easy application.

If you have an installation that requires effective, lasting resistance to high humidity between similar or dissimilar materials—***Wat-R-Bar*** is the answer.

***FREE SAMPLE** is yours on request. Put it to the toughest test in your plant. Write Dept. R-3*

PRESSTITE SEALING COMPOUNDS

PRESSTITE DIVISION
AMERICAN-MARIETTA COMPANY

K A P

3786 CHOUTEAU AVENUE • ST. LOUIS 10, MISSOURI

safe transit

editorial voice of the national safe transit program

devoted to improving packaging methods and shipping and materials handling methods for the appliance and metal products manufacturing industries. This section contains plant experience information and industry advances for the use of all executives and plant men interested in improving packaging and shipping methods and in loss prevention. The section contains complete information on the national safe transit pre-shipment testing program for packaged finished products and detailed reports of divisions and sub-committees of the National Safe Transit Committee.

SAFE TRANSIT NEWS

National Packaging Forum

Twelve seminars head the list of features for the 21st annual National Packaging Forum of the Packaging Institute, to be held Nov. 16-18 at the Statler-Hilton Hotel, New York City. Plans for the forthcoming meeting have been announced by Roy W. Abling, Merck, Sharp, & Dohme Div., Merck & Co., Inc., chairman of the Institute's Forum Plans Committee.

Packaging Institute Names Walsh

The appointment of Richard T. Walsh to the post of membership coordinator on the headquarters staff of the Packaging Institute has been announced by Charles A. Feld, executive director. Creation of the position, according to Feld, is the latest step in expanding service to Packaging Institute's 1,000 members and to the entire packaging field.

Yale Names Curry Midwest Sales Manager

J. J. Curry, a veteran of more than eight years in the sales and service of industrial lift truck equipment, has been named midwest regional sales manager by Yale Materials Handling Div., The Yale & Towne Mfg. Co.

Clyde R. Dean, general sales manager, said that Curry will supervise and coordinate activities of Yale factory sales, service branches, and franchise representatives in Michigan, Ohio, Indiana, and Kentucky.

International Paper Builds New Plant

International Paper Co.'s Container Div. has purchased property and is building a new corrugated box plant at Phoenix, Ariz., according to an an-

Sample boxes show possibilities of enhancing corrugated with full color sales messages and illustrations. In the case of small appliances, only one container is used, doing away with a protective corrugated box and a retail shelf carton.

Color pictures on corrugated applied by pre-lithographing

THE CORRUGATED CONTAINER, long a useful but drab favorite of packagers, has taken its place in the full color family of modern merchandising containers.

Corrugated's inherent advantages of strength, protection and size has been combined with four to six color pictorial reproductions from paintings, sketches, and other forms of color photography in a process which has been under development for the past several years. Progress Lithographing Co., Cincinnati, developer of the process, supplies the basic lithography to container manufacturers, who finish the final boxes.

As the name Pre-Lith implies, the full color lithography is accomplished prior to combining with the actual corrugations and inside liner. This is done in long rolls on bleached, coated, or natural liner board. The finished outside liner is then run through a corrugating machine, where it is combined with the medium (corrugations). The flat, corrugated sheets are shipped to box manufacturers, who crease, die-cut, fold, tape, and slot to produce the final box.

To gain the mass production stage, Progress had to solve two problems. The initial one was to take full color lithography, combine it into flat corrugated board, and then cut the finished flat sheets in accurate register. This was accomplished electronically. Also, special inks had to be developed that would take the scuffing and high temperatures that are part of making the finished corrugated sheets.

Any shaped package may be made with the process. This includes square, rectangular, oval, irregular, or triangular shapes. Thickness of the liner board may also vary, depending on the need.

Savings are achieved with use of the colored container, since for a small appliance, only one container is used, instead of a protective corrugated box plus an additional retail shelf carton.

nouncement by Arthur R. Damon, division general manager. The plant is scheduled to be in operation within a few months. Damon also announced the appointment of Donald M. Scott as sales manager for the new operation.

New Clearview Cargotainer

A newly designed Cargotainer in the Clearview model has been announced. Cargotainers are welded wire fabric containers used by industry for handling all types of materials. The base section of this new container has been engineered to accommodate the minimum 30″ length of lift truck forks, while affording 4 and 8-way entry. It also lends itself to pallet and platform trucks. Capacities of the container range from 500 to 6,000 lbs. It is constructed of 2″ x 1¾″ channel on the long sides and 2″ x 1½″ channel on the short sides. The wire fabric is cold-drawn 2-gauge steel wire with welded intersections forming 2″ mesh. For more information write Dept. MPM, Tri-State Engineering Co., Washington, Pa.

Fork Lift Truck Travels In Any Direction

Automatic Transportation Co. has introduced their "Crab" lift truck which permits traversing in any direction, at any angle, and with any shaped load. The new steering and twin drive motors are operated by one control lever which provides forward and reverse turning without use of the steering wheel. Only angle and side steering are controlled by the steering wheel.

The truck is 65 inches long, 43 inches wide, and can turn completely around in a 70-inch circle. A tilt device is available as an optional feature to cradle the load.

Products Handling Bulletin

A six-page bulletin, entitled "Kennett Containers Handle Precision Products Better," has been announced. The two-color folder includes six case histories. A complete line of the containers are pictured, including utility trays, nesting-stacking trays, mill boxes, drop-side trucks, and reusable shipping containers and barrels. Copies of the bulletin are available free of charge by writing Dept. MPM, National Vulcanized Fibre Co., 1059 Beech St., Wilmington 99, Del.

Electric Fork Trucks

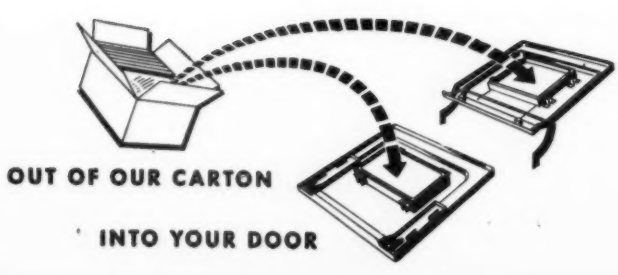
A new catalog page, detailing a new line of electric powered fork trucks which feature a unique speed control system, has been published. The carbon pile control system is said to combine accurate "inching" with fast acceleration. Full power is attained at slow speeds for safe starting on ramps. The free literature describes the 4000, 5000 and 6000-pound capacity models. Copies may be obtained from Dept. MPM, Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 3, Ohio.

New Packaging Engineering Firm Founded

Packaging Consultants Inc., a firm of packaging engineers, has been formed in Washington, D. C. Thomas P. Wharton, former vice president of Container Laboratories, Inc., and manager of its Washington Div., has resigned from that position to accept the presidency of the new firm. Directors of the company, in addition to Wharton, include Paul O. Vogt, former manager of packaging and warehousing of the General Electric Co.; Allyn C. Beardsell, former president of Container Laboratories and for many years head of packaging of Western Electric Co.; Robert W. Johnson, who directed the Air Force Packaging and Materials Handling Board; and Milton Carr Ferguson, prominent Washington lawyer and president of the Strato-Port Corp. of America. The new firm is located at 4380 MacArthur Blvd., N. W., Washington 7, D. C.

The Answer to "visible

This is a partial list of range manufacturers which use the PERMA-VIEW window in their built-in ovens: Admiral Corporation; Athens Stove Works; Avco Manufacturing Corporation, Crosley Division; Canadian Admiral Corporation, Ltd.; Canadian General Electric Company Limited; Canadian Westinghouse Company Limited; Dixie Products, Inc.; General Electric Company; Gibson Refrigerator Company; Gray & Dudley Company; Hardwick Stove Company; Hotpoint Company; Kelvinator Division, American Motors Corporation; Midwest Manufacturing Corporation; Moffats Limited; Mt. Vernon Furnace & Mfg. Co.; Oakland Foundry; Pan Pacific Manufacturing Co.; Philco Corporation; Phillips & Buttorff Corporation; Preway, Inc.; Samuel Stamping & Enameling Company; J. B. Slattery & Bros., Inc.; National Stove; Stiglitz Corporation; The Stove Works, Inc.; Tennessee Stove Works; Utility Appliance Corp.; Harry C. Weiskitel Co. Inc.; and Westinghouse Electric Corporation.



A phone call or letter will bring an experienced engineer to your plant for prompt consultation. Phone MArket 4-1591, Walled Lake, Michigan.

e baking...

PERMA-VIEW

Range manufacturers are well aware of the increase in demand for "visible baking" during recent years. The PERMA-VIEW oven door window is the most logical and most economical answer to this demand.

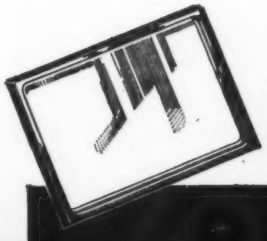
THIS IS A GENUINE CLEAR VISION PERMA-VIEW PATENTED NON-FOG WINDOW

In just eight short years, the PERMA-VIEW window has become the accepted standard in the range industry. Today 80 of the leading range manufacturers are using the PERMA-VIEW window. For both free-standing ranges and built-in oven units "the window you can see through always" is the accepted standard.

As a practical, economical and effective component, PERMA-VIEW can be your best sales feature. Be sure you take advantage of this sales feature in your new models — either free-standing or built-in.

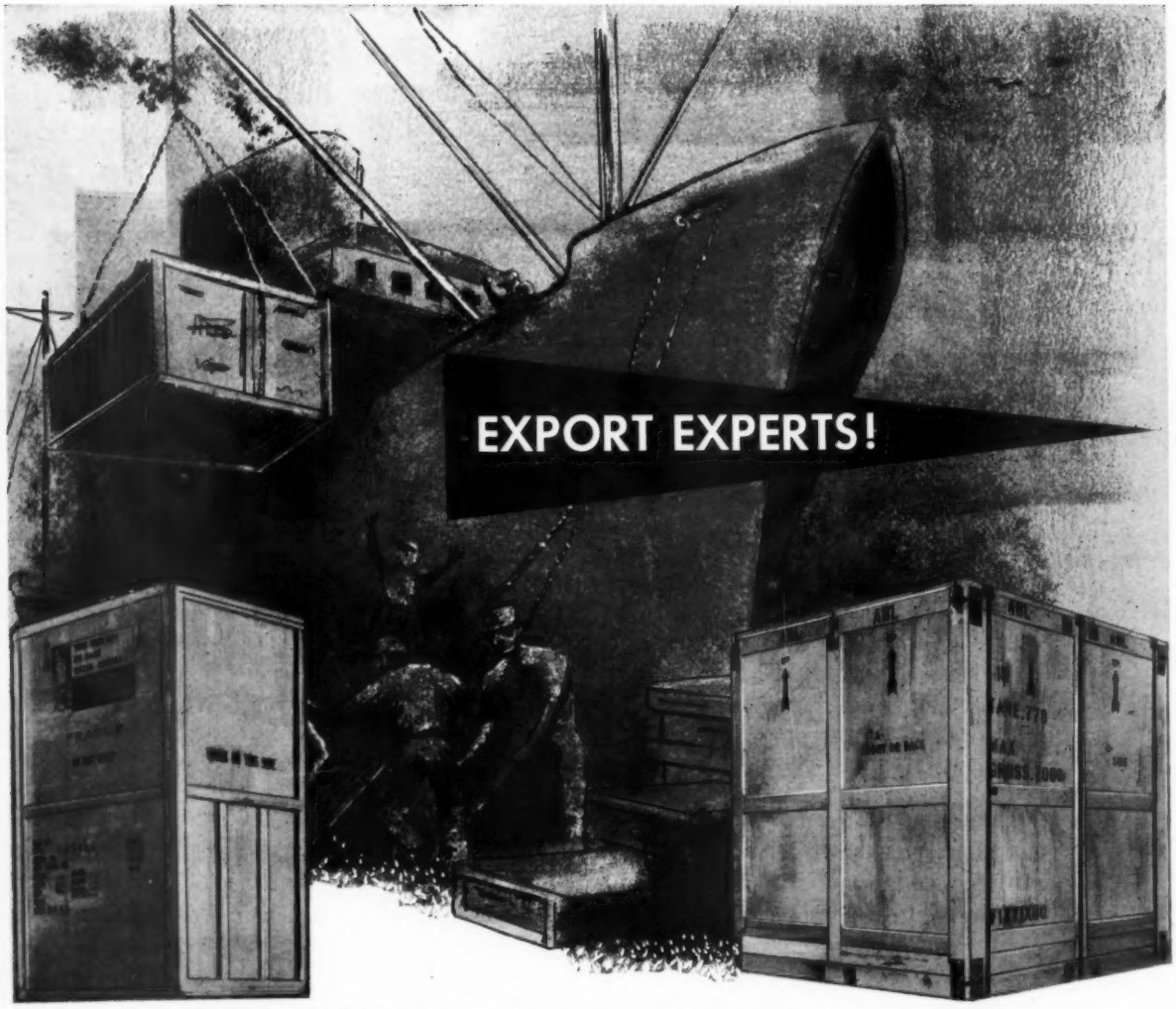
The strong steel encased, double pane PERMA-VIEW window incorporates the finest quality heat resisting glass. It is mechanically sealed to prevent infiltration of vapors and to eliminate "fogging." This "No-Fog" window meets the constantly growing demand for "visible baking." We can manufacture any shape, any size, any thickness to meet your engineering requirements. Rectangular - round - square - trapezoid. Alternate methods of attachment may be used.

RECTANGULAR ROUND SQUARE TRAPEZOID



MILLS PRODUCTS INCORPORATED

1015 WEST MAPLE ROAD • WALLED LAKE, MICHIGAN



CHICAGO MILL—Largest Manufacturers Of EXPORT SHIPPING CONTAINERS for the APPLIANCE INDUSTRY

FREE: Illustrated catalog describing Chicago Mill Containers and Services.

America's leading appliance manufacturers rely on Chicago Mill for export shipping containers to assure safe arrival of their products. These manufacturers know, from long experience, that Chicago Mill containers protect the finishes and mechanisms, withstand the handling and shocks encountered during overseas shipment, discourage pilferage and practically eliminate loss and damage claims.
Whether you do your own packaging for overseas shipment — or have it done for you by export packaging firms — your appliances will reach their destinations safely in Chicago Mill Export Containers!

FOR SAFER TRANSIT BY • BOAT • TRUCK • TRAIN • PLANE
Always Use Chicago Mill Shipping Containers.

SINCE 1881
PROUD OF THE PAST • CONFIDENT OF THE FUTURE

CHICAGO MILL AND LUMBER COMPANY

33 South Clark Street, Chicago 3, Illinois

Plants at:

Helena, Arkansas • Rockmart, Georgia • Tallulah, Louisiana • Greenville, Mississippi • Chicago, Illinois

INDUSTRY PERSONALS

O'Malley Investment & Realty Co., 1802 W. Central Ave., Phoenix, Ariz., has announced that **W. Cribben Wilkinson** is now associated with the firm. "Crib" Wilkinson, formerly assistant vice president, sales, Cribben and Sexton Co., Chicago, moved to Arizona in March of this year after more than twenty years in the gas appliance manufacturing business.

Detroit Controls Div., American-Standard, has appointed **Sylvan E. "Red" Leinwand** eastern regional manager, with headquarters at Stratford, Conn. The announcement was made by A. L. Fuller, sales manager. Leinwand has been with Detroit Controls since 1948.

Cook Paint & Varnish Co., Kansas City, Mo., has announced the election of two new men to its board of directors. **John S. Ayres** and **C. F. McMahon** have been elected to fill vacancies created by the retirement of John F. Cash and Harold H. McLucas. Ayres, elected a vice-president early this year, was manager of Cook's Detroit research division before his recent move to Kansas City to become general manager of the company's industrial sales division. McMahon, who has been a vice-president since 1956, is general sales manager for all sales other than industrial.

McMAHON

AYRES

Michigan Oven Co., Detroit, has announced staff promotions for formation of a new management team. The promotions are: **A. C. Towne,** formerly president, chairman of the board; **L. M. Gill,** formerly sales manager, president; **C. A. Windsor,** vice president; and **B. C. Smith,** secretary-treasurer.

Verson Allsteel Press Co., Chicago, has announced three new appointments in the organization, according to President David C. Verson. **Walter C. Johnson** has been appointed assistant vice president of administration. He has been with the company since 1944, serving as sales manager for the last nine years.

C. J. Warmac has been appointed sales manager, Hydraulic Div. He joined the company seven years ago as a hydraulic sales engineer. **Paul J. Kjelstrom** has been appointed sales manager, Mechanical Press Div. His background of 18 years with Verson includes positions as chief engineer, service manager, and executive assistant.

TOWNE

JOHNSON

M. H. Rhodes, Inc., Hartford, Conn., has announced the appointment of **C. P. Cairelli** as chief engineer. He has been associated with the company for three years as a design engineer.

Canadian General Electric Co., Ltd., Montreal, has announced the appointment of **P. R. Farley** as foreman of enameling and plastic operations in its major appliance department.

Chicago Vitreous Corp. has named **Joseph F. Janecke** market development manager. The announcement was made by L. A. Johnson, manager of sales and service. Janecke has been continuously associated with the porcelain enamel industry since 1925. He came to Chicago Vitreous as market development engineer in August, 1954, and has served in this capacity since that time.

JANECKE

PAYTON

Reynolds Metals Co.'s executive vice president, William G. Reynolds, has named **L. R. Payton** as his executive assistant. Payton has been manager of the Rigid Container Division for the past year-and-a-half. He will continue to coordinate the company's aluminum can program in addition to his new duties.

Norge has appointed **James R. Gall** manager of sales development for home freezers. He will assist the sales manager of refrigeration products in marketing and merchandising the freezers.

Whirlpool Corp. has announced that **Kern Sosey,** formerly works manager of Whirlpool's St. Paul Div., has a new assignment in the company's St. Joseph, Michigan Div. as new product manager in the engineering department. In his new position, he will be responsible for moving proposed new products from the conceptual stage through a determination of manufacturing feasibility and ultimately, when investigation warrants,

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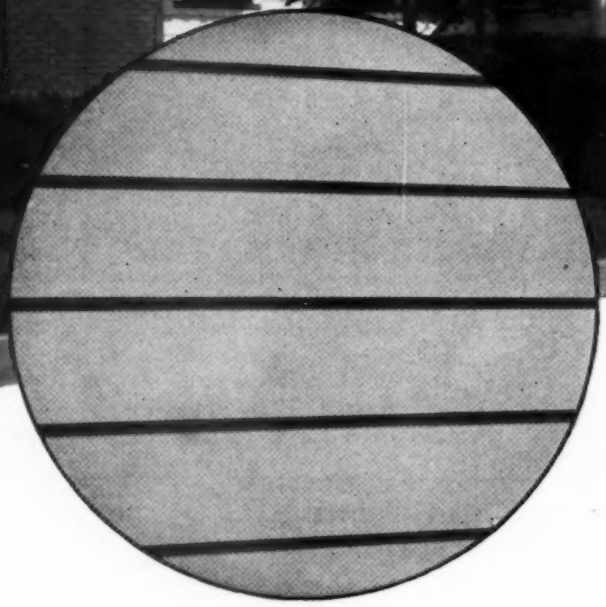
12 YEARS LATER—

STILL NO PAINTING NEEDED!

This picture was taken May, 1959, 12 years after this building was sided with Aluminum Siding finished with *one coat* of Interchemical's POLYMERIN baked enamel.



This close-up photograph of the same building reveals *no damage*. The finish is in *excellent condition!*

Twelve years of sun, snow, wind, rain and industrial smog have failed to mar the beauty of this building, located just blocks from Lake Erie!

This is no accident. POLYMERIN Aluminum Siding Enamels are carefully engineered to last. Either white or the many beautiful pastel shades have excellent color retention—do not chip or peel! When time finally takes its toll by slow erosion, the surface is easily repaintable. No need for paint removers or burning off the old finish.

POLYMERIN enamels are applied by roller coat on continuous aluminum strip and baked for 1 minute at 400°F to 500°F. The strip is subsequently sheared and fabricated, a process which calls for excellent adhesion and flexibility.

If YOUR product must withstand long term outdoor exposure, finish it with POLYMERIN Speed-Bake Enamels.

Interchemical
CORPORATION
Finishes Division

Headquarters Office: 224 McWhorter St., Newark 5, N.J. Factories: Chicago, Ill. • Cincinnati, Ohio • Elizabeth, N.J. • Los Angeles, Cal. • Newark, N. J. • Mexico City, Mex. In Canada, this product is made by Aulcraft Paints Limited, Toronto, Ontario, and sold under its trademark. *Polymerin is a registered trademark of Interchemical Corporation.*

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FOUNDATION makes the difference!

INTERLOX

assures a sound base for your finish.

The Interlox line was developed by Northwest's Cleaning Specialists to give you a better, lower cost, easily controlled phosphate base for organic finishes.

Interlox iron phosphate products deposit a high quality, fine grained, dense coating with great speed and dependability.

There is an Interlox product developed to meet your particular need whether spray or immersion type, single or multiple stage. Interlox baths are unusually long lived and require less additions and control.

Northwest's production-tested chemicals and dependable recommendations will save you money. Your Northwest Cleaning Specialist can give you expert advice on any cleaning or phosphatizing problem.

Licensed Manufacturers

Alert Supply Co. Los Angeles, California Armalite Company, Ltd. Toronto, Canada

NORTHWEST CHEMICAL COMPANY

9310 ROSELAWN DETROIT 4, MICHIGAN

Personals

→ *from Page 101*

to production. Whirlpool states that Sosey's background of engineering training and experience will be especially valuable in determining manufacturing feasibility where profitable short-run manufacture is a requirement.

Fred G. Sutphen, widely-known Armco Steel Corp. research consultant, died August 2nd in Middletown Hospital after a lengthy illness. Born in Middletown in 1879, Sutphen joined Armco's Middletown Works in 1909. After several assignments, he was appointed a special engineer in the inspection department in 1924. In this position he specialized in counseling users of Armco enameling iron and became widely known in the appliance and other industries which use this product. In 1929, Sutphen moved to the works manager's office as a porcelain enameling consultant. He transferred to Armco's research laboratories in 1931, also as a consultant, and retired in January, 1952.

"Fred Sutphen was one of the pioneers in the field of porcelain enameling, and made a major contribution to the development of porcelain enameling sheets and their use in the appliance and other industries," Ted F. Olt, Armco vice president in charge of research, commented.

Columbus Coated Fabrics Corp., Columbus, Ohio, has announced the appointment of **Norbert Frosch** as manager of industrial styling, according to Phillip Schuss, director of styling. Frosch joined Columbus Coated's design department in 1956.

The Maytag Co. has announced two new appointments. **D. James Hughey** has been named regional manager for the company's Indianapolis branch. He will be headquartered in Toledo. **William J. Swartz** has joined the research and development department as an industrial stylist.

Ferro Corp. has announced that **Paul G. Thompson** has joined the firm as a sales-service engineer. The announcement was made by William N. Noble, vice president of Ferro's Frit and Glaze division. Thompson was formerly with Whirlpool Corp. (Clyde Div.), where he was a ceramic engineer. He has also been associated with the Barrows Porce-

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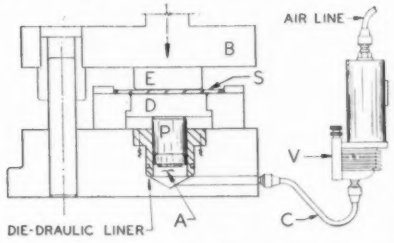
NEW

SUPPLIES & EQUIPMENT

Hydraulic Die Pad Pressure

A method of procuring hydraulic pressures on die pads for drawing or forming uses the principle of trapping oil in small cylinders contained within the die. Pistons operating in these cylinders supply fully-required pressure from the very start of pad movement. As the pistons move with the descent of the punch, the trapped oil is metered into a small reservoir through a special pressure-and-volume-sensitive valve which may be adjusted to the required pressure.

Units are available for small or large dies in adequate pressure and volume for a wide range of applications. For further information, contact Dept. MPM, Die-Draulic Grip, Inc., 1440 Front Ave., Grand Rapids 4, Mich.



The diagram shows how the air line pressure against the hydraulic oil in the reservoir elevates piston (P). As the ram descends, it moves the entire system, consisting of die shoe (B), stock (S), die pad (D), and piston (P), against the pressure-controlled oil in space (A) while stock is being formed. During the descent, the oil is forced from under the piston and through the second channel of a pressure-and-volume-sensitive valve (V). The amount of pressure, pre-set by the operator, is kept constant by this valve as the oil returns to the reservoir. From the start of the stroke, the pressure on the stock is both constant and controlled.

New Inherent Motor Protector

The manufacturer states that this product is designed according to requirements specified by the motor manufacturer. Although sensitive to the slightest change of temperature and current, the protector can be calibrated for the application. The simplicity of design and installation makes this device desirable from a cost angle, and is available to operate in a wide range of temperature and currents. Motor manufacturers are invited to send for drawings and specifications. Refer to Part No. 1621, Dept. MPM, Mechanical Products, Inc., 1824 River St., Jackson, Mich.

Grounding Terminal Screw

A new triple-purpose fastener has been developed. Called the Shakeproof .. grounding terminal screw, it is designed for use with clothes dryers, built-in ranges and other appliances requiring electrical grounding protection for the user. In use, the unit performs three distinct functions: 1-Enamel reaming point removes porcelain enamel, paint or other finishes from the hole, eliminating a separate reaming operation; 2-Thread cutting feature cuts threads deep into the bare metal of the panel, assuring a positive metal-to-metal connection; 3-Pre-assembled tab washer, with legs adaptable to various ground wire sizes, retains the wire loop firmly under its bearing surface for maximum electrical conductivity. At time of installation, the one piece unit is merely loosened — not completely disassembled — to connect ground wire to appliance. The screw is 10-24 size, 5/8" long and made of specially heat treated steel. The 5/16" slotted hexagon head fits a standard socket wrench for manufacturing ease and permits use of a screwdriver for field installation of the ground wire. The unit is suitably plated for corrosion resistance and meets UL requirements for appliance grounding applications. For further information, write Dept. MPM, Shakeproof Div., Illinois Tool Works, Elgin, Ill.

Gas Burner System

A gas burner system is claimed to provide flexibility of temperatures and loads because of its 25-1 throttling range. Based upon the principle of utilizing some oxygen from the stream of air being heated, it may be used on either re-circulating or single-flow systems. In addition to its use on ovens, kilns, and dryers, the system is also suited for heating makeup air introduced to replace exhausted air. For further information, contact Dept. MPM, Maxon Premix Burner Co., 201 E. 18th St., Muncie, Ind.

Double Circuit Switch

Designed to make or break two circuits simultaneously, this double circuit switch is particularly suitable for vending machines, door switches, automatic equipment, and appliances. The unit features a pin plunger adaptable to applications requiring limited overtravel where the actuating device can be separately controlled. The switch is rated at 15 amp., 125 volts ac; 10 amp, 250 volts ac; ½ hp, 125/250 volts ac. Vertical or horizontal mounting is possible. For further information, contact Dept. MPM, Controls Co. of America, 9555 Soreng Ave., Schiller Park, Ill.

Cold-Process Cleaning System

A cold-process, phosphate-cleaning system, recently developed, is said to allow phosphate lines to work at low temperatures (either dip or spray) with the same operational advantages that were heretofore possible only at high temperature ranges. The process is claimed to provide a clean, grease-free surface, a corrosion-inhibiting base for paint, and a non-conducting bond between base metal and paint.

TEMPERATURE COMPARISONS FOR SIX-STAGE SYSTEM

	Cold System (Degrees F.)	Hot System (Degrees F.)
Stage 1-Cleaner	90	165
Stage 2-Rinse	90	160
Stage 3-Rinse	110	160
Stage 4-Phosphate	120	160
Stage 5-Rinse	unheated	unheated
Stage 6-Rinse	80-130*	80-130*

* Comparable temperatures in both systems, varying according to efficiency of dryoff oven.

By using this process, one appliance manufacturer is said to have saved five cents per cabinet. For further information, contact Parker Rust Proof Co., 2177 E. Milwaukee Ave., Detroit 11, Mich.

Power Slitting Shear

A power slitting shear recently introduced features a deep throat and a rugged and easily adjusted back gauge. Made in three sizes, the shear has two reversible, interchangeable, high carbon cutters. For further information, contact Dept. MPM, Beverly Shear Mfg. Co., 3004 W. 111th St., Chicago, Ill.

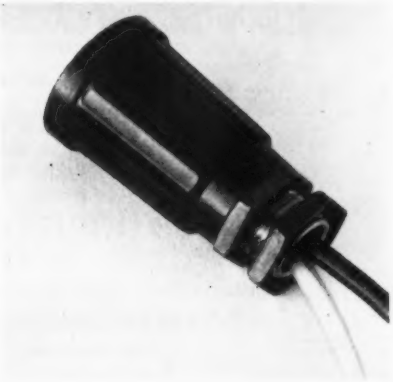
Plural-Component Spray Gun

A two-headed spray gun with high performance but low cost has been developed. According to the manufacturer, the gun represents a "first" in the low-cost plural-component spraying equipment field, and offers users the benefits of high efficiency spray application without involving excessive costs. Designed primarily for the application of polyester resins where the

accelerator mixture must be brought into contact with the catalyst mixture immediately before the mixture impacts the work surface, the gun can also be put to other uses. An example is in spattering or veiling, where two different materials can be sprayed with each pass of the gun. The gun, designated as Model 181, reportedly can be used for almost any two-component finishing system where perfect mixing is not required, or where pre-mixing is impossible or impractical. For more information on the Model 181, write Dept. MPM, Binks Mfg. Co., 3114 Carroll Avenue, Chicago 12, Ill.

Candelabra Socket

A candelabra socket with leads has been added to a line of wiring devices. A bakelite husk over a copper screw shell with solid copper center contact is provided on the socket. It may be used as a pilot, indicating, or instrument light in electronic work for a small 115 V. candelabra lamp. For further information, contact Dept. MPM, Kulka Electric Corp., 633-643 S. Fulton Ave., Mount Vernon, N.Y.



DURACRON

Cut finishing costs on refrigerators . . . with no sacrifice in quality

Why continue with multiple coats when One-coat DURACRON is as good or better for refrigerators? With this amazing thermo-setting acrylic enamel, you'll cut finishing costs substantially—at no sacrifice in quality. DURACRON can be applied at higher line speeds. Its fast set reduces the number of rejects caused by dirt, sags and runs. Its unusual hardness and toughness greatly lessen danger of marring or abrasion in assembly.

• **One-coat DURACRON** actually upgrades performance in service, too. Its color retention, hardness and resistance to the corrosive effects of stains, grease, detergents and other chemicals are superior to conventional two-coat finishes.

MAIL THIS COUPON TODAY!

• Write for free brochure which explains in detail how DURACRON One-coat Enamel cuts finishing costs without sacrificing quality.

PITTSBURGH INDUSTRIAL FINISHES

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Pittsburgh Plate Glass Company,
Industrial Finishes Division,
1 Gateway Center, Pittsburgh, Pa.

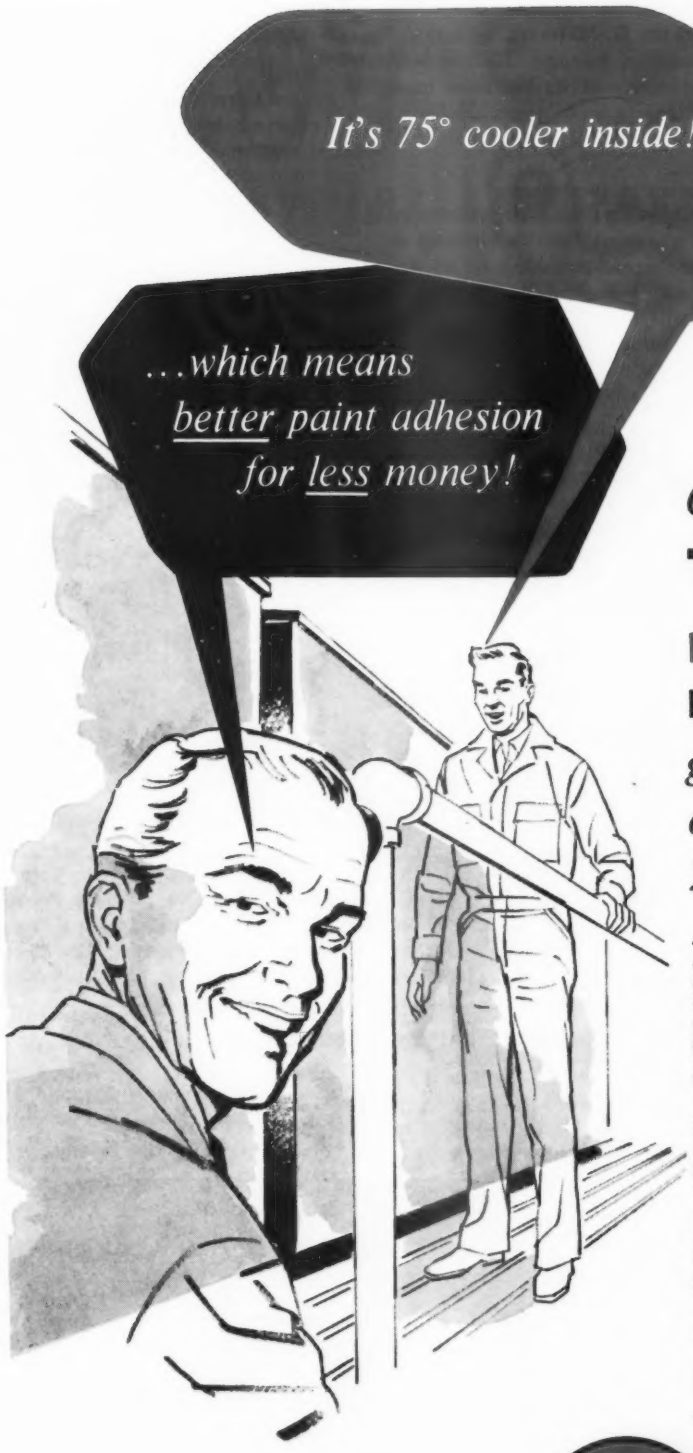
Gentlemen: Please send me a copy of your free book on new DURACRON Acrylic Enamel.

Name_____

Address_____

City_____ **County**_____ **State**_____

Name of Company_____



Only new

TURCOAT

LOW TEMP PHOSPHATING

gives you up to 200 mg/sq.ft. of zinc phosphate coating in 2 short minutes at 95°F.

The Turcoat low temperature phosphating process provides permanent paint adhesion when used at an economical, easy-to-maintain temperature of 95°F. This temperature is *lower* than that required by other "cold" phosphating processes. It is up to 75° *lower* than temperatures required by conventional phosphating processes. You save up to 75% in steam, water, electricity and downtime costs alone!

As a base for paint, the Turcoat low temp phosphating process provides a uniformly smooth coating of up to 200 mg/sq. ft. in two minutes at 95°F. **As a base for corrosion prevention,** it provides an 1100 mg/sq. ft. coating in just eight minutes at 95°F.

Turco has waited to announce low temperature phosphating until it was thoroughly perfected and proven, through exhaustive field testing, to be the very best. For this reason, you'll find that with this new process, just as with Turco's hundreds of other cleaning and chemical processes, you are assured of trouble-free operation, ease of control, and dedicated technical service...anytime, anywhere! Write today for the full story of Turcoat low temperature phosphating, along with Turco's phosphating reference chart. There's no cost . . . no obligation.

TURCO PRODUCTS, INC.

Chemical Processing Compounds

24600 South Main Street, Wilmington, California

FACTORIES: Newark, Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Paris, Hamburg, Montreal, Manila, Naha (Okinawa)

Manufactured in Canada by B. W. Deane & Co., Montreal

Offices in all Principal Cities

TURCO PRODUCTS, INC.

24600 South Main Street, Wilmington, California

Please send full details on Turco's new low temperature phosphating process and Turco's phosphating reference chart, without cost or obligation.

NAME_____ TITLE (OR DEPT.)_____

FIRM_____

ADDRESS_____

MPM

Personals

→ *from Page 104*

lain Enamel Co., Cincinnati, Ohio; the Seeger Refrigerator Co., St. Paul, Minn.; and the Lustron Corp., Columbus, Ohio. Elmer W. Dany, vice president of Ferro's Furnace Engineering division, has announced the appointment of **John D. Campbell** as manager of Ferro Corporation's Supply division. Campbell joined Ferro in 1956 and has been a sales engineer since 1957. He fills the position vacated early this year by the death of Theodore F. Moeller.

Latrobe Steel Co., Latrobe, Pa., has announced that **Peter Leckie-Ewing** has joined the metallurgical staff. He formerly was chief metallurgist at Landis Machine Co., Waynesboro, Pa. Latrobe produces tool, die, and specialty steels.

Norge Div., Borg-Warner Corp., has named **Harry G. McDavitt** as national sales promotion manager. He has been Norge wringer and washer sales manager for nearly four years. McDavitt will be responsible for all promotional activity.

Robertshaw-Fulton's International Div. has appointed **John E. Farrand** as general manager, according to an announcement by T. T. Arden, president. Farrand will be responsible for all of the firm's international operations except those in Europe, which are headed by Ralph V. Coles.

American Forge & Manufacturing Co., McKees Rocks, Pa., has named **Irving B. Gruber** as president. He had been vice president of the firm for the past 13 years. American Forge produces custom-engineering forgings and materials handling equipment.

Pemco Corp. has added another service engineer for porcelain enamels to assist customers in the Pennsylvania and Ohio areas. He is **Dale E. Murray**, formerly with the enameling department of Perfection Industries. The announcement came from James B. Willis, service manager of Pemco.

United Wallpaper, Inc., Chicago, has appointed **Arthur W. Slocum** manager of industrial finishes sales. The announcement was made by W. F. Rhoades, vice president, marketing. For eight years prior to this appointment, Slocum held the position of sales manager at the Illinois Paint Works division, and represented the firm on special assignments.

MC DAVITT

MURRAY

GRUBER

FARRAND

LECKIE-EWING

SLOCUM

Industry news

→ *from Page 89*

chines for Automatic Foods Corp., Chicago, makes USCM one of the major contract manufacturers in the automatic merchandising field.

Submersible Electric Percolator

A new submersible electric percolator which brews from five to ten cups of coffee has been introduced by the Mirro Aluminum Co., Manitowoc, Wis. It can be dunked and cleaned in seconds, and features a detachable thermostatic control with a reminder light which blinks when the coffee is ready.

New Kelvinator Warehouse

Kelvinator will build a two-million dollar warehouse, totaling 330,000 square feet, for the storage of major appliances at a site on 44th St. near U. S. Highway 131, in Grand Rapids, Mich., it has been announced by George Beld, works manager.

H. W. Tuttle Holds New Plant Open House

The plant and office of H. W. Tuttle Co. were moved recently from Adrian, Mich., to Tecumseh, Mich., and on Saturday, July 18, an open house was held for visitors. The new office is of two-story height, with the first floor being used for general offices and a balcony for the engineering department.

Pictured are Mrs. Madeline Tuttle and H. W. Tuttle, Jr. standing by an automatic bushing machine for inserting ceramics into metal hangers. The plant for the production of electrical heating devices was laid out to take advantage of an unusual amount of natural light, and has an overall color scheme designed by Pittsburgh Plate Glass. Equipment includes a number of specially-designed units for the high speed production of specialized heating devices. Engineering is stressed by company executives.

NEW INDUSTRIAL LITERATURE

Textured Metals Brochure

A six-page, illustrated brochure supplies information on a new line of textured metals. These metals are said to be adaptable for porcelain enameling, painting, polishing, vinyl-laminating, or anodizing. They are designed for use in the architectural, appliance, and vending fields. To obtain a copy of the brochure, write to Dept. MPM, Ardmore Products, Inc., 163 Aldene Rd., Roselle, N.J.

Vapor Degreasing Solvents

A 16-page booklet covers the area of vapor degreasing solvents and gives detailed information on choice of solvents, degreasing cycles, and maintenance procedures. A special section deals with ultrasonic degreasing. Charts are presented on specific gravity of oil mixtures. For a copy of the booklet, write to Dept. MPM, Columbia-Southern Chemical Corp., 1 Gateway Center, Pittsburgh 22, Pa.

Appliance Hardware

This 1959 Idea File contains complete information on hardware designs for the appliance industry. Specialty items, knobs and handles, hinges, catches, and latches are all covered. Write Dept. MP99, Amerock Corp., Rockford, Ill.

Vinyl Laminate

The brochure "Colovin Meets Metal" provides laminate samples, colors and textures, test specifications, industrial applications, and a list of laminators. For the whole story, write Dept. MM959, Columbus Coated Fabrics Corp., Columbus 16, Ohio.

Solenoid Catalog

This catalog provides information on a line of solenoids for every application. Standard sizes from 1⅜" x 1⅜" to 3" x 3", stroke lengths fractional to 2", pull and/or push capacities to 35 lbs. Larger sizes are made to specifications. For your copy, write Dept. TR, Dormeyer Industries, 3436 Milwaukee Avenue, Chicago 41, Ill.

Automatic Controls Catalog

A new 1959-'60 catalog was recently released which lists this firm's entire line of automatic controls for heating, refrigeration, and air conditioning. Among the new products carried in the 56-page catalog are ten new models of the "Silent Knight" series gas valves, a line of solenoid valves, a low-voltage room thermostat, and a variety of electric heat controls.

Full specifications, plus a description of operation and general applications, are included in each product listing. The illustrated catalog is cross-indexed for easy location of controls by type or use. Copies of the catalog can be obtained by writing to Dept. MPM, White-Rodgers Co., 1209 Cass Ave., St. Louis 6, Mo.

Phosphatizing Treatment

A pre-paint phosphatizing treatment for steel is described in a four-page brochure now available. Six different variations of the compound are described for specific applications. The operation can be accomplished by immersion or spray. To obtain a free copy of the brochure, write to Dept. MPM, Northwest Chemical Co., 9310 Roselawn, Detroit 4, Mich.

"Who's Who In CO_2"

"Who's Who in CO_2" is the title of a brochure which tells the story of automatic and semi-automatic CO_2-shielded welding processes. The unique, 16-page brochure details three CO_2 processes: two semi-automatic hand-gun processes, and a fully-automatic process. Illustrated charts outline typical applications from lap joints and fillets to butt and lap welds. Copies of the brochure are available by writing to Dept. MPM, Welding Products Div., A. O. Smith Corp., Milwaukee Wis.

Rubber Grinding Wheels

A technical data book on the selection, application, and operation of cosmo-rubber contact backup wheels for abrasive belt grinding and finishing has been released. Also included in the book is a section on industrial rollers. For a copy of the book, write to Dept. MPM, Chicago Rubber Co., Inc., 651 Market St., Waukegan, Ill.

Porcelain Enameling Catalog

This catalog contains complete information on all types of porcelain enameling supplies and equipment. It serves as a handy reference for anyone in the porcelain enameling industry. Write Dept. MPM, Chicago Vitreous Corp., 1425 S. 55th Ct., Cicero 50, Ill.

Hydraulic Valves

A manual illustrating and describing the operation and application of pressure controlled hydraulic valves has just been published. The 20-page book contains information on its uses in relief, sequence, reducing, unloading, and counterbalance. Also shown are flow diagrams, pressure versus flow curves, ratings, dimensions, drawings, and specifications. For a free copy of the manual, write to Dept. MPM, Rivett, Inc., Brighton 35, Boston, Mass.

Finishing Cost Guide

A handy metal parts finishing cost guide for comparison of on-premises finishing of parts, off-premises finishing of parts, and use of pre-finished parts is being offered. The cost guide is designed to pin-point all price factors from raw materials through production. To obtain a copy of the cost guide, write to Dept. MPM, Apollo Metal Works, 6680 S. Oak Park Ave., Chicago 38, Ill.

Arc Welding Accessories

Illustrating and describing a complete line of arc welding cable connections and accessories, this catalog is offered free of charge by the manufacturer. Illustrated and described in the 12-page catalog are ground clamps, electrode holders, cable connectors, and ball point cable splicers. For a copy, write to Dept. MPM, Tweco Products, Inc., P. O. Box 666, Wichita, Kans.

Laboratory Demineralizer

Laboratory Demineralizer MBD-6A is described in Bulletin 4553. Write Dept. MPM, Permutit Co., a division of Pfaudler Permutit, Inc., 50 W. 44th St., New York 36, N. Y.

Preparing Metal Surfaces

A new metal cleaning handbook presenting over one hundred types of equipment and techniques for the cleaning and preparation of metal surfaces has been released. The 32-page handbook covers both the basic factors in metal cleaning and specific methods to meet a variety of cleaning problems, including degreasing, decarbonizing, washing, phosphating, stripping, drying, blackening, rust proofing, pickling, and coating. Various sections cover the analyzing of cleaning problems and the subsequent selection of the correct chemical method and equipment for the individual job. Copies may be obtained free by writing Equipment Division, Magnus Chemical Co., Inc., Dept. MPM, Garwood, N. J.

Finishing Literature Summary

A pocket-size reference summary of metal finishing literature produced by a manufacturer of metal cleaning, plating and finishing chemicals, is now available. Technical data sheets give metal finishers where-to-use information, make-up, operating instructions, analysis and control for a wide variety of cleaners, copper-plating processes, dry acid salts, Macromate coatings and many other specialties. This summary folder lists data sheets by number, trade name, and use. Write Dept. MPM, MacDermid, Inc., Waterbury, Conn.

Welding Equipment Catalog

All Hobart arc welding machines are described and illustrated in a new 24-page, two-color catalog. This catalog includes complete specifications and ordering information on gasoline and diesel engine driven welders, engine driven welder-power combination units, electric motor driven arc welders, rectifier-type welders, transformer-type welders, combination transformer-rectifier-type welders, ac and dc inert-gas-shielded arc welders, and a complete line of automatic and semi-automatic welding equipment. Write Dept. MPM, Hobart Brothers Co., EW-209, Troy, Ohio.

Thermo-Setting Acrylic Enamel

This free brochure describes in detail its one-coat thermo-setting acrylic enamel. It is claimed that its color retention, hardness, and resistance to the corrosive effects of stains, grease, detergents, and other chemicals are superior to conventional two-coat finishes. Write Dept. MPM, Pittsburgh Plate Glass Co., Industrial Finishes Div., 1 Gateway Center, Pittsburgh, Pa.

Zinc Coated Steel

This free booklet details the advantages of zinc coated steel. Points out this material's resistance to corrosion after fabrication as one example. Write Dept. R-1, Weirton Steel Co., Weirton, W. Va.

Phosphating Reference Chart

Full details on a new low temperature phosphating process and a phosphating reference chart are offered without cost or obligation. Write Dept. MPM, Turco Products, Inc., 24600 S. Main St., Wilmington, Calif.

Catalog On Toggle Switches

Bulletin No. 53T-1, just off the press, covers the full line of Haydon 5300 series toggle switches. Included in this brochure are complete listings of all standard models, as well as illustrations of several typical switch assemblies. Write Dept. MPM, Haydon Switch, Inc., Waterbury 20, Conn.

Stud Welding Booklet

More than a dozen widely-varied stud welding applications, which have enabled manufacturers to reduce their fastening costs, are shown in a 12-page

booklet on "Reversing the Trend in Production Costs." The booklet includes a cost reduction work sheet to enable the reader to compute savings obtainable. Examples range all the way from giant wind tunnel compressor stators to small power tools and air conditioning equipment. Write Dept. MPM, Nelson Stud Welding Div., Gregory Industries, Inc., Lorain, Ohio.

Small Motors

This manufacturer produces motors that meet unusual and specialized needs of appliance companies. The company offers literature outlining their complete line plus their design and manufacturing experience. Write Dept. MPM, Brevel Products Corp., 609 W. 26th St., New York 1, N. Y.

Blower Housings

If you are a manufacturer of air conditioning, heating, ventilating, or refrigeration equipment, this company offers literature on their line of standard blower housings. Broad range. For wheels 3¼" to 9-5/16" diameter, all widths. Write Dept. MPM, Detroit Stamping Co., 404 Midland Ave., Detroit 3, Mich.

Spray Booth Catalog

This catalog covers the more than 500 standardized spray booths offered by this company. It is stated that these booths offer such advantages as modular design, paint trapping efficiency, stay clean longer, and save on maintenance. For a copy of Spray Booth Catalog I-7000, write Dept. MPM, The DeVilbiss Co., Toledo 1, Ohio.

Idea Book On Pumps

This free Idea Book shows a complete line of pumps for every need. One example is a new bung-type pump for transfer of paint from a closed end of a 55 gallon drum. Write Dept. MPM, Graco, 926 Graco Square, Minneapolis 13, Minn.

V-Belt Pulley Catalog

This company specializes in the production of light weight fractional hp V-belt pulleys for OEM. Available for a wide range of pitch diameters for both "A" and "B" section V-belts. Write Dept. MPM, The Nagel-Chase Mfg. Co., 2817 N. Ashland Ave., Chicago 13, Ill.

Powdered Metal Parts

"Converting Powdered Metal into Machine Parts" is the title of a four-page folder describing 18 advantages for pressed powdered metal. The process is performed by automatic presses which force the proper powder into the die and press it into a compact molded piece. Close tolerances and excellent wear resistance are among the advantages claimed for this process. For a copy, write Dept. MPM, Norwalk Powdered Metals, Inc., 8 Muller Park, Norwalk, Conn.

Phosphate Coatings

This bulletin describes a complete line of both zinc and iron phosphate processes, for spray or tank, for room or elevated temperature operation. Write for Bulletin F-9475, Dept. MPM, Oakite Products, Inc., 32H Rector St., New York 6, N. Y.

Target Spray Lube

Target Spray Lube, for resurfacing dies, die guide pins, cam dies, and for lubricating chains, sprockets, conveyors, vertical and horizontal cross head screws and ways, is said to resist high temperatures, acids, alkalis, and corrosion.

For a copy of the bulletin describing the lubricant, write Dept. MPM, Chemical Lubricants Co., 1338 N. Woodward Ave., Royal Oak, Mich.

Leece-Neville Locates New Division in Gainesville

Production facilities for its newly-acquired line of ac motors will be located in Gainesville, Ga., it has been announced by P. H. Neville, president of the Leece-Neville Co., Cleveland. According to present plans, limited production will be flowing from the Gainesville division by early fall.

Neville also announced that Ellis B. Gitchell has been named manager of the new division. Gitchell joined Leece-Neville in 1956 as plant engineer; earlier this year, he was appointed factory manager of the company's three Cleveland plants.

☆☆☆☆☆☆

COMING FEATURES

DESIGN

NEWS AND ENGINEERING BREAKDOWN ON A BRAND NEW PRODUCT BY A LEADING APPLIANCE MANUFACTURER

APPLIANCE STYLING WITH ALUMINUM

NEW BALANCING RING FOR WASHERS

GROUND RULES FOR DESIGN ENGINEERING

FABRICATION

SLITTING AND SHEARING AT THE PHILCO-AVCO OPERATION IN NASHVILLE

BUFFING OF STAINLESS STEEL

PROCESSING METAL TOPS AT ALL-STEEL EQUIPMENT

FINISHING

THE FUTURE FOR PLURAL COMPONENT (CATALYST) RESINS

AN ALL-NEW PLANT FOR PORCELAIN ENAMEL AND CERAMIC COATINGS

GENERAL

A LOOK AT THE FOREIGN MARKET FOR REFRIGERATORS

AN ULTRASONIC DISHWASHER

APPLIANCE SERVICE ORGANIZED FOR PROFIT

CLASSIFIED

Per column inch: 1 ti. 3 ti. 6 ti.
1 to 2" inclusive $18.00 $17.00 $16.00
3 to 5" inclusive 17.00 16.00 15.00
6 to 9" inclusive 16.00 15.00 14.00
Measured in vertical column inches; each column 2¼" wide. Accepted in column-inch multiples only. For reverse plate, add 25 per cent. No agency commission.

FOR SALE
PORCELAIN ENAMEL PLANT EQUIPMENT

Complete equipment necessary for operation of 5' x 12' box-type gas-fired furnace plant. Pickle tanks 4' x 12' x 6', two lead-lined. Includes all plumbing and electrical gear. No reasonable offer refused. Will also consider selling 50 per cent of P. E. business with tax loss.

Write Box 9C, Dana Chase Publications, Inc., York St. at Park Ave., Elmhurst, Ill.

ASSISTANT TO CERAMIC ENGINEER

Assistant to Ceramic Engineer for process control and development work in one of porcelain enamel industry's most modern and progressive job enameling plants. Located in midwest. Prefer job enameling experience. Excellent opportunity to learn and progress. **Address reply to Box 9A, Dana Chase Publications, Inc., York St. at Park Ave., Elmhurst, Ill.**

STEEL FINISHING ENGINEER

Excellent opportunities for graduating chemical engineer or one with the equivalent background and experience in electrostatic spraying, flow coating, dipping, metal preparation, bonderizing and degreasing. Should be able to engineer all kinds of finishing problems and develop controls to improve yields on finishing materials as well as trouble shoot on finishing products. Should have at least five years of experience in some appliances or its equivalent. Job located in northeastern Wisconsin in a city of 10,000 population, close to Wisconsin's vacation-land areas. **Write Personnel Manager, HAMILTON MANUFACTURING CO., Two Rivers, Wisconsin.**

General Controls Co. Launches International Division

An International division, designed to supervise and coordinate the company's expanding overseas activities, has been formed by General Controls Co., Glendale, Calif., according to William A. Ray, president. Remy H. Ludwig has joined the company as director of the division, and will be headquartered in the firm's home offices in Glendale.

ADVERTISERS' INDEX

CUSTOMER SERVICE OFFICES

DANA CHASE, JR., York St. at Park Ave., Elmhurst, Ill. ..... TErrace 4-5280
R. F. KENDIG, York St. at Park Ave., Elmhurst, Ill. ..... TErrace 4-5280
KARL J. SHULL, 608 Midvale, Los Angeles 24, Calif. ..... GRanite 7-8824 and WEbster 1-3030
FRED JAMESON, 821 Edinburgh St., San Mateo, Calif. ..... Diamond 3-8806

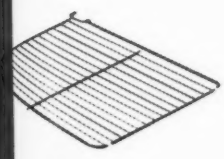
METAL PRODUCTS STATISTICS

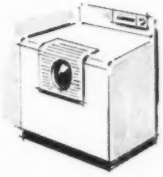
		1959 (Units)	1958 (Units)	% Change
Gas Furnaces - Warm Air	June	90,400	71,400	+26.6
	Jan.-June	433,600	320,300	+35.4
Gas Boilers	June	13,300	9,700	+37.1
	Jan.-June	49,900	41,100	+21.4
Gas Conversion Burners	June	13,000	10,100	+28.7
	Jan.-June	46,300	48,900	- 5.3
Oil Fired Central Heating Eqpt.	June	44,312	32,394	+36.8
	Jan.-June	249,274	217,495	+14.6
Gas Ranges, Free Standing	June	131,200	133,600	- 1.8
	Jan.-June	809,100	766,200	+ 5.6
Gas Ranges, Built-In	June	36,100	22,200	+62.6
	Jan.-June	159,100	96,700	+64.5
Gas Water Heaters	June	235,400	231,000	+ 1.9
	Jan.-June	1,528,100	1,336,200	+14.4
Gas Vented Recessed Wall Heaters	June	33,800	28,200	+19.9
	Jan.-June	193,400	151,800	+27.4
Gas Floor Furnaces	June	7,200	5,000	+44.0
	Jan.-June	37,400	32,600	+14.7
Gas Direct Heating Eqpt.	June	114,400	98,500	+16.1
	Jan.-June	440,500	396,100	+11.2
Gas Unit Heaters & Duct Furnaces	June	11,500	8,300	+38.6
	Jan.-June	66,300	58,300	+13.7
Gas Incinerators	June	3,600	3,400	+ 5.9
	Jan.-June	19,900	22,800	-12.7
Electric Household Refrigerators	June	361,000	316,300	+14.1
	Jan.-June	1,866,300	1,485,000	+25.6
Electric Farm & Home Freezers	June	127,600	121,500	+ 5.0
	Jan.-June	653,000	493,600	+32.2
Electric Ranges, Free Standing	June	77,000	63,800	+20.6
	Jan.-June	495,600	400,000	+23.9
Electric Ranges, Built-In	June	74,400	53,000	+40.3
	Jan.-June	353,300	244,000	+44.7
Electric Storage Water Heaters	June	75,800	74,600	+ 1.6
	Jan.-June	432,400	397,500	+ 8.7
Electric Dishwashers	June	49,400	34,300	+44.0
	Jan.-June	254,700	184,100	+38.3
Electric Food Waste Disposers	June	64,500	61,300	+ 5.2
	Jan.-June	350,400	282,700	+23.9
Combination Washer-Dryers	June	10,423	7,069	+47.0
	Jan.-June	87,249	64,851	+35.0
Washers, Automatic & Semi	June	258,981	209,689	+23.0
	Jan.-June	1,370,239	1,180,017	+16.0
Washers, Wringer & All Other	June	82,913	79,142	+ 5.0
	Jan.-June	439,946	397,576	+11.0
Electric Dryers	June	47,862	34,913	+37.0
	Jan.-June	339,810	271,776	+25.0
Gas Dryers	June	22,976	19,260	+19.0
	Jan.-June	167,611	114,769	+46.0
Vacuum Cleaners	June	273,649	253,127	+ 8.1
	Jan.-June	1,708,865	1,501,724	+13.8
Metal Furniture	June	*	*	+13.0
	Jan.-June	*	*	+ 6.0
†Television	June	571,003	337,090	+69.3
	Jan.-June	2,782,715	2,167,930	+28.3
†Radio (1)	June	1,430,165	742,426	+93.1
	Jan.-June	7,107,586	4,619,163	+53.8
Compressor Bodies (2)	April	668,776	*	*
	Jan.-April	2,329,074	*	*
Compressor Bodies, Automotive	April	63,098	*	*
	Jan.-April	222,391	*	*
Steel Barrels & Drums	May	3,464,659	2,718,383	+27.0
	Jan.-May	14,595,902	12,703,892	+14.8
Steel Pails	May	8,214,207	7,068,313	+16.0
	Jan.-May	33,066,130	28,369,583	+16.5
Typewriters	May	91,732	84,127	+ 9.0
	Jan.-May	461,478	*	*

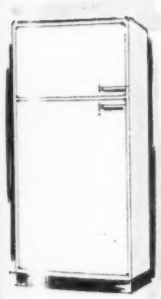
(1) Including auto receivers (2) Including units for household refrigerators & exports
* Not Reported † Output

Sources for this information: Gas Appliance Manufacturers Association, National Electrical Manufacturers Association, American Home Laundry Manufacturers Association, Vacuum Cleaner Manufacturers Association, National Association of Furniture Manufacturers, Electronic Industries Association, Air-Conditioning and Refrigeration Institute, and U.S. Dept. of Commerce.

You owe it to her







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. . to use the very Best

Naturally—she wants far more than exterior beauty and styling. She also wants the convenience of practical long lasting, easy-to-maintain refrigerator shelving, baskets and other necessary components. For continued satisfaction and repeat purchases she must have the type of product engineering that will guarantee more years of durable, dependable, maintenance-free operation from each working part of her new appliance.

Remember, she's the expert and your best home front salesman, too! Consequently, you just can't afford to compromise quality for price at any point. Your new appliance may call for refrigerator shelving, baskets, trays, freezer components—or oven racks, element frames, side runners—perhaps even grills and guards. Then why not remember the one experienced source for your welded wire components? Union Steel's half-century of leadership in the design, fabrication, 100% inspection and on-time delivery of better, more dependable wire products can be yours at this very moment.

Union Steel's sales-engineering staff is at your disposal. A phone call to ALBION, NAtional 9-2181 will bring an immediate answer to your request.

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Contract Wire Division

ALBION, MICHIGAN

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FACTORY REPLACEMENT PARTS

the same as original equipment

There's even more involved than profit . . . when you risk costly service call-backs by using cheap substitute repair parts. You also risk customer good will . . . *your* good name.

"The same as original equipment" means replacement parts that are made to the same exacting tolerances as the originals by the appliance manufacturer or his supplier. They're carefully machined and assembled to pass the same rigid inspection requirements and functionally tested . . . to fit perfectly every time . . . work right and last longer. Call these facts to the attention of your customer. She'll appreciate the resulting performance. You'll like the way they fit and reduce call-backs.

Substitute parts may look the same but they lack quality. It's smart business to always specify . . . always insist on . . . always use dependable factory replacement parts. Remember, they're made to the same high quality . . . high performance specifications as the original equipment. Protect your good name . . . insure customer good will—your profits by insisting on GENUINE FACTORY REPLACEMENT PARTS.

See your authorized name-brand appliance distributor or service outlet. He maintains a complete stock of factory replacement parts.

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